

OPEN SPACE 2010



Open Space and Recreation Plan for the Town of Brookline

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for the
Town of Brookline

Brookline Conservation Commission
May 2011

Front Cover Photo

Aerial view of Skyline Park

(Also visible in the photo are parts of Lost Pond Sanctuary,
Robert T. Lynch Municipal Golf Course at Putterham Meadows,
Dane Park, and parts of Brookline and Boston in the distance)

Photo courtesy of CDM

Back Cover Photos

Environmental Education class at
Ward's Pond in Olmsted Park

&

Boston Pops Brass Quintet at
Allerton Overlook in Olmsted Park

Photos by Heather Lis



Town of Brookline

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May 2011

The Conservation Commission is pleased to present to the citizens of Brookline Open Space 2010: Open Space and Recreation Plan for the Town of Brookline. This plan is the result of a year-long process led by the Open Space Plan Committee, which included members of the Conservation Commission, representatives from other Town boards and commissions, and community organizations. The Committee was supported by staff from the Brookline Parks and Open Space Division, as well as the other Divisions of the Department of Public Works, particularly Engineering, the Geographic Information Systems (GIS) Division, and the Planning and Community Development and Recreation Departments. The Open Space Plan Committee met throughout 2010, hosted three public meetings, and convened a series of meetings with three subcommittees to focus on specific issues. Brookline Open Space 2010 builds on the Town's history of open space planning and management, as well as new and emerging concerns that will impact open space in the future.

In the five years since preparation of the last Open Space Plan, the community has made important strides towards preserving open space and the environment in Brookline. The Town completed the closure and redevelopment of the former landfill, including construction of the very popular Skyline Park, as well as a system of trails connecting to adjacent open spaces. Brookline also completed the purchase of the site of the former Fisher Hill Reservoir from the State of Massachusetts, and has begun a final design process for the development of a new park with both active and passive recreational elements. Significant renovation and rehabilitation projects have been completed at a number of parks, including Amory Playground, Dane Park, Driscoll School Playground, Harry Downes Field, Juniper Street Playground, Lawton Playground, Linden Park, Monmouth Street Park, Soule Playground, and most recently Lower Soule Field and Winthrop Square. The Town passed a Wetlands Protection By-Law to provide more specific protection of wetland resources than existing state laws, passed a Stormwater Management By-Law, and has adopted a Conservation Restriction policy. Friends groups have grown and remain active, helping maintain a high standard of stewardship in Town parks and open spaces. The street tree inventory has been improved and updated, with specific tree information incorporated into a GIS database. Bicycle and pedestrian improvements have been made, including new bicycle lanes and improved pedestrian crossings.

Brookline Open Space 2010 identifies numerous near-term opportunities to enhance our open space and to improve the health and sustainability of the community. In addition to highlighting the ongoing need to protect important open spaces in Brookline, this plan recognizes the growing threats posed by climate change and the links between open space and public health.

Both the challenges and opportunities for open space in Brookline are great. The Conservation Commission looks forward to working with the many friends of open space in Brookline, old and new, to pursue the goals of this plan.

Kate Bowditch
Chair

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DEDICATED
TO
JOANNA WEXLER

IN MEMORY AND IN GRATITUDE FOR HER DEDICATION TO
OPEN SPACE IN BROOKLINE AND HER YEARS OF SERVICE TO
THE CITIZENS AND TOWN OF BROOKLINE

JOANNA SERVED ON THE CONSERVATION COMMISSION FOR TWELVE
YEARS, INCLUDING HOLDING THE POSITIONS OF CHAIR & VICE CHAIR

JOANNA SERVED AS A MEMBER OF TWO OPEN SPACE PLAN
COMMITTEES, AND WAS AN AUTHOR AND EDITOR OF THESE
PLANS, BOTH OF WHICH BENEFITED TREMENDOUSLY FROM HER
INSIGHT AND EXPERIENCE

IN 2004, THE CONSERVATION COMMISSION WAS PLEASED TO NAME
JOANNA THE ENVIRONMENTALIST OF THE YEAR

IN APPRECIATION OF HER VISION AND OUTSTANDING
SERVICE TO OPEN SPACE AND TO THE COMMUNITY



BOARD OF SELECTMEN CONGRATULATING JOANNA ON ENVIRONMENTALIST OF THE YEAR AWARD

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SECTION 1

EXECUTIVE SUMMARY

Brookline Open Space 2010 is the Town of Brookline's seventh Open Space Plan, and the plan reflects the Town's diverse open space system and the complex needs and goals of the community. Although Brookline is a well-established community and most land area has been developed, there remain significant and important open space resources throughout town, and open space management and protection is a priority.

Brookline's open space resources range in scale from grand, historic parks and private estates to small pocket parks and public gathering places in commercial areas. The system comprises naturalized sanctuaries which are home to native wildlife and plants; parks managed primarily for active and passive recreation; pedestrian pathways, greenways and wildlife corridors; wetlands and other natural resource areas; and a vital urban forest. The environmental and public health benefits that accrue from this open space are considerable and its presence contributes greatly to the aesthetic appeal of the community.

In defining open space, this plan recognizes the variety of open space that characterizes Brookline, and also draws on the values of open space identified in the new Brookline Conservation Restriction Policy. For this plan, open space is defined as land that is substantially in a natural state or landscaped in such a manner as to provide some or all of the following open space values:

- a. Provides habitat for native plants and animals
- b. Can be sustained for conservation purposes in an undisturbed or minimally managed condition
- c. Protects water bodies or wetland resources
- d. Protects water quality or contributes to stormwater control
- e. Ensures that the land will remain in farming, forestry, or recreational use
- f. Preserves a scenic or historic view
- g. Protects significant trees
- h. Is adjacent to land with open space value
- i. Provides "green features" or environmental services in built and urbanized spaces
- j. Provides public benefits
- k. Contributes to the environment

The benefits and values of open space will be discussed throughout this plan, and have helped shape the goals and objectives laid out in the plan.

Brookline Open Space 2010 builds on the successes as well as the ongoing needs identified in the previous six Open Space Plans, and also reflects issues and challenges that have emerged in the five years since the last Open Space Plan. The Plan begins by laying out the community setting of Brookline, including a brief history of the Town's development, open space patterns, and infrastructure. There is an inventory of the Town's environmental resources, including a detailed inventory of parks and sanctuaries. These sections are followed by a Needs Analysis, which was developed with significant input from the community. The Needs Analysis leads directly to the Goals and Objectives and an Action Plan, which have been designed to meet the open space needs identified by the community. The Plan also includes numerous maps, tables and figures that provide supporting information.

Many of the Town's goals identified in previous Open Space Plans have been met. Since the publication of Open Space 2005, Brookline has adopted a local Wetlands Protection By-Law, adopted a Conservation Restriction Policy, developed Skyline Park, acquired the former Fisher Hill Reservoir from the Commonwealth of Massachusetts, added bicycle and pedestrian improvements, and restored and refurbished numerous parks, among other things. Nevertheless, many open space needs remain, and some goals have carried into this Plan from previous Plans. Gradually, Brookline continues to lose open space, impacting wildlife, shrinking the tree canopy, increasing impervious land cover, reducing habitat and breaking up green corridors. One of Brookline's most important open space needs is to identify and strengthen tools for

EXECUTIVE SUMMARY

the permanent protection of key unprotected open space. Although this goal is carried forward from previous Plans, Brookline Open Space 2010 identifies several new tools that may be useful in this effort, including zoning tools and more active use of Conservation Restrictions. The need to establish funding sources for open space preservation remains unmet and is a high priority.

This Plan also identifies new needs and establishes goals and objectives to meet these needs. Over the past five years, there has been a growing recognition of the links between open space and other important concerns, notably public health and climate change. Well-designed, accessible open space is important to support a physically active and healthy population. Brookline's open spaces should strengthen active and passive recreation, as well as enhance bicycle and pedestrian transportation and recreational opportunities. A healthy urban forest, including street trees, will improve air quality and reduce the growing problem of the urban heat island effect. Increased urban greening on both public and private property will reduce the negative impacts of stormwater pollution and flooding, both of which will likely worsen with climate change. A well-connected open space system will help species threatened by climate change. Many open space strategies can help reduce energy consumption.

The Plan also reflects Brookline's current economic circumstances, and emphasizes the importance of maintenance and stewardship of our existing open space resources even in times of fiscal stress. The economic, public health, habitat, water resource and aesthetic benefits of Brookline's open space system are well-established and will increase in importance as the Town grows and the climate changes. This Plan reflects the strong consensus that it is critical for the Town to continue a high standard of care and maintenance of its open space resources.

To accomplish the goals set out in the Open Space Plan, there are a wide variety of activities detailed in the Action Plan. Some actions are specific and have a clear timeline. Others call for further study of a specific challenge to identify the most appropriate strategies for moving forward. Brookline's previous Open Space Plans have proven to be valuable, living documents, helping shape and direct open space protection and management, and establishing goals for the future. Brookline Open Space 2010 continues that tradition, celebrating our achievements, identifying our needs, and setting out a plan to meet our goals.

TOWN OF BROOKLINE, MASSACHUSETTS

OPEN SPACE MAP

Legend

PROTECTED OPEN SPACE AND OTHER OPEN LAND

- BROOKLINE LAND TRUST
- CEMETERIES
- COMMUNITY PARKS
- CONSERVATION AREAS
- CONSERVATION RESTRICTIONS
- GOLF COURSE
- NATIONAL HISTORIC SITES
- NEIGHBORHOOD PARKS & PLAYGROUNDS
- PASSIVE PARKS
- SCHOOL PLAYGROUNDS
- TRAFFIC ISLANDS & OTHER SMALL OPEN SPACES

OTHER UNPROTECTED OPEN LAND

- AGRICULTURAL AND RECREATION LAND
- CEMETERIES
- NEIGHBORHOOD PARKS & PLAYGROUNDS
- PRIVATE INSTITUTIONS
- SCHOOL PLAYGROUNDS
- STATE PROPERTIES
- TRAFFIC ISLANDS & OTHER SMALL OPEN SPACES
- WATER BODY

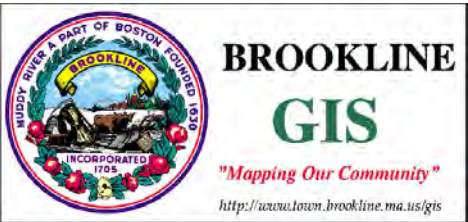
- STREAMS AND RIVERS
- STREET EDGES
- TOWN BOUNDARY

DATA SOURCES

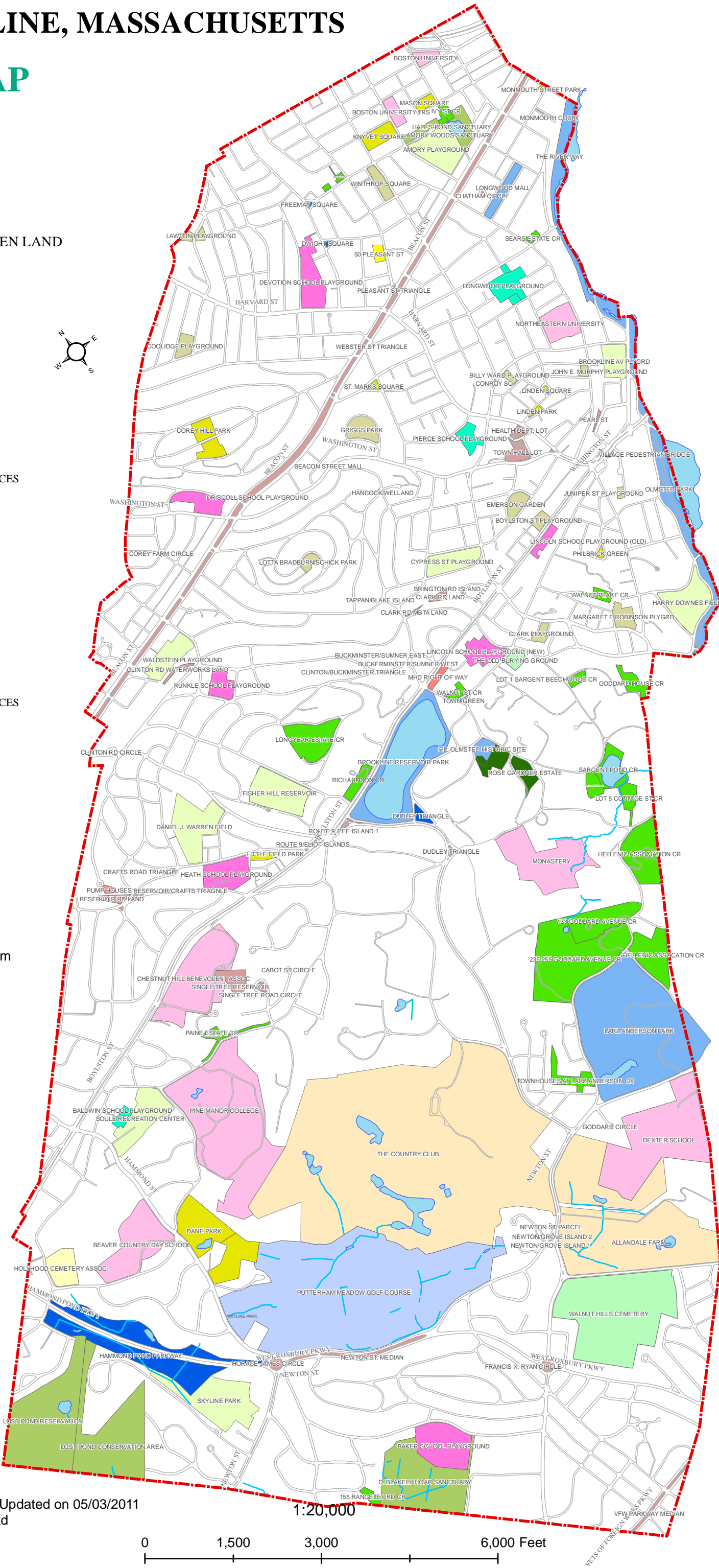
Street edge, town boundary, water bodies, and open space layers were created by and are from the Brookline GIS Database.

Disclaimer

The information shown on this map is from the Brookline Geographic Information System (GIS) Database. The Town of Brookline makes no claims, no representations, and no warranties, express or implied, concerning the validity (express or implied), the reliability or the accuracy of the GIS data and GIS data products furnished by the Town, including the implied validity of any uses of such data.



Map created by Brookline GIS on 06/03/2009; Updated on 05/03/2011
map doc: Standardmaps\OpenSpace11x17.mxd



0 1,500 3,000 6,000 Feet

SECTION 2

INTRODUCTION

Brookline began formal open space planning through the Conservation Commission in 1976. The past decade has demonstrated the need to preserve existing open space and create smaller open spaces and "green" features across a range of properties, from the few remaining large parcels that are open and natural, to the dense commercial and residential developments that are being built and proposed in Brookline.

This Open Space Plan is the Town's seventh plan. Each five-year plan has been built upon the accomplishments of the previous plan. Brookline's 2005-2015 Comprehensive Plan and the 2006 Parks, Open Space and Recreation Strategic Master Plan confirm the Town's commitment to open space, and provide a platform for this Open Space Plan.

Brookline has made considerable progress in meeting the goals and action items from the past few open space plans. The Open Space Plan 2010 sets out action items for continuing and consolidating those achievements. New goals and objectives reflect more recent citizen concerns.

Recent Brookline accomplishments in open space protection include creation and rehabilitation of parks and fields, approval of Town By-Laws and policies relating to open space, and an increase in advocacy for open space and climate change issues.

There have been numerous highlights in the past five years. Skyline Park, an active community park, has been created on the site of the former Town landfill. Dane Park, a passive wooded park, has been restored and its trails extended and made accessible. Plans are proceeding for a multi-use park at Fisher Hill. Other parks, playgrounds, fields, and Town grounds have been restored and renovated. The Town has established a Stormwater Management By-Law, Wetlands Protection By-Law, and Conservation Restriction Policy, and has passed a "Resolution to reduce the proliferation of invasive plant species." Open space preservation, stormwater and watershed protection, and maintenance of the urban forest, have been advanced.

Citizen advocacy groups for parks, playgrounds and sanctuaries have substantially increased in

number and in accomplishments. Advocacy for climate change action, including bicycle lanes and improved pedestrian pathways, is strong. There are increased environmental education opportunities for children and adults. Increasingly, the connections between open space, climate change, public health, transportation and community benefits are being recognized, and Brookline's advocacy groups frequently work together in support of shared goals.

Brookline's desirable residential and commercial location, as well as its schools, parks, varied neighborhoods and high level of services lead to intense development pressure and high real estate costs. Nevertheless, the current recession and lingering economic distress may challenge the Town's ability to protect, maintain, and create open space opportunities. Careful attention is required to ensure a balance of density and open space as development and redevelopment takes place. The Town has expressed a desire for preservation and creation of open space that is well served by regularly revisiting the planning process.

The Conservation Commission is responsible for producing, updating, and implementing the Town's Open Space Plan, and leads the Open Space Plan process. The Commission determined a process for this Open Space Plan, which was as follows:

1. An Open Space Plan Committee was convened in February 2010 with 18 members from various boards, commissions, Town departments and outside local interest groups. The Committee met seven times between February 2010 and March 2011.
2. Three public forums were held at locations across the Town to solicit input from the community in March 2010.
3. Based on the input and comments received during the public forums and public comment period, three working groups were established in the spring of 2010 to explore issues related to Open Space Protection and Zoning, Greenways, and Infrastructure and Resource Protection. The working groups met a total of 14 times during the spring, summer and fall of 2010.

INTRODUCTION

4. Through the local newspaper and electronic postings and e-mails, the public was encouraged to submit additional comments.
5. The work and input of the three working groups, along with other input from Committee members and staff, was utilized to prepare drafts of the Plan's Needs Analysis, Goals and Objectives, and Action Plan, which were shared with the Open Space Plan Committee.
6. Following the presentation to, and approval of the draft Open Space Plan by the Open Space Plan Committee, the Plan was finalized, was approved by the Conservation Commission, and then was approved by the Brookline Board of Selectmen in June 2011.

"In all things of nature there is something of the marvelous."

Aristotle

"Conservation is a state of harmony between men and land."

Aldo Leopold

"It is a wholesome and necessary thing for us to turn again to the earth and in the contemplation of her beauties to know of wonder and humility."

Rachel Carson

SECTION 3

COMMUNITY SETTING

A. REGIONAL CONTEXT

Brookline, with a population of 58,732 (U.S. Census Bureau, 2010 Census), is an urban town of 6.8 square miles (4,355.4 acres) surrounded by Boston on three sides and Newton on the southwest side. Cambridge is readily accessible on the other side of the Charles River. Brookline is part of Norfolk County, although it is physically detached from the main portion of the county.

Watershed Address

Brookline is located entirely within the Charles River watershed; all rain and snow that falls within Town boundaries eventually drains to the Charles River. Surface water drainage is influenced by topography, street and utility infrastructure and land use patterns. While Brookline is located entirely within the Charles River watershed, the Charles River itself does not flow through Town. Brookline is divided into twelve major subwatersheds that contribute flow to the Charles river either directly or through one of several tributary stream. Four of these discharge directly into the Charles River, five into the Muddy River, two into Saw Mill Brook and one into Stony Brook.

Brookline's subwatersheds are defined largely by the Town's extensive underground storm drain system. Brookline's storm drains consist primarily of concrete pipes that collect runoff from rain and melting snow and carry flows by gravity through a system of pipes that discharge to either a pond or stream, or to an adjacent community's storm drain system, flowing eventually out to the Charles River.

The Muddy River is the most significant surface water body in Brookline and serves as part of the municipal boundary of Boston and Brookline. Over the past century, the water quality, flood carrying capacity and habitat conditions of the Muddy River have been impaired due to increased urbanization. Most of Brookline's land area drains to the Muddy River, and five of the Town's subwatershed areas discharge directly to the Muddy River, including the Village Brook drain system, the Tannery Brook drain and the Longwood Ave. drain system.

Resources Shared with Other Communities

Brookline shares a number of significant open spaces and waterbodies with adjacent communities and other government jurisdictions. Most prominent of these are the Olmsted and Riverway Parks and the Muddy River, which are part of the Emerald Necklace. These parks are one of Brookline's most valuable open space resources. Their size, connections to larger water and open space resources, and ease of access allow them to function as one of the region's major passive and active open space networks, as a critical habitat corridor and as a significant water resource.

The Emerald Necklace Park system, created by Frederick Law Olmsted, includes pathways on both banks of the Muddy River starting from the confluence with the Charles River to its headwaters at Jamaica Pond. Currently, Boston and Brookline share in the primary responsibility of managing and maintaining the parks and pathways with a small portion of the Park under the jurisdiction of the Massachusetts Department of Conservation and Recreation (DCR). The DCR is responsible for the parkways within the park system.

The Muddy River has flooded three times since the fall of 1996 and caused damage to nearby residents' homes, businesses and institutions. In response to these events numerous parties, including federal and state environmental agencies, Boston, and Brookline have come together to address the flooding and environmental issues. The resulting Phase 1 Muddy River Flood Control, Water Quality and habitat Enhancement, and Historic Preservation Project is intended to address this issue. The goal of the restoration project is to improve flood control in the river, improve water quality, enhance aquatic/riparian habitat, rehabilitate the landscape and historic resources and implement stormwater best management practices.

Another area of shared natural resources of regional importance is in the southwestern part of Brookline. Here, one of the Town's few remaining surface waterbodies, Lost Pond, is located on the state's Lost Pond Reservation, managed by DCR. This property is adjacent to significant open space parcels owned by Brookline and Newton, including

COMMUNITY SETTING

Brookline's Lost Pond Conservation Area and the former Newton Street landfill property, as well as Kennard Park and Conservation Area, which belongs to the City of Newton. The Brookline Lost Pond Conservation Area was once part of the Town's landfill and incinerator site, which ceased operations in 1975. In 2006, the front portion of the landfill was formally closed, as part of the landfill closure and reuse project. The project involved clearing debris, regrading, drainage and access improvements, environmental remediation, landscaping, and the creation of a new multi-use park on the capped landfill. The beautiful 15-acre community park, Skyline Park, opened in 2008, and is Brookline's newest park in over 25 years. Skyline Park contains state of the art playing fields, equipment for toddlers as well as older children, a picnic area, walking paths, and seating, as well as connections to the adjacent Lost Pond Conservation Area.

Also in the southern part of Brookline, D. Blakely Hoar Sanctuary owned by Brookline lies near natural areas located in Boston and Newton. Leatherbee Woods, managed by the Boston Natural Areas Fund, is directly adjacent to the Hoar Sanctuary and efforts to strengthen a partnership are underway.

Socio-Economic Context

Brookline is predominantly a residential community with a diverse mix of housing types and a relatively small commercial tax base. Although Brookline has approximately 1,483 businesses, many are businesses based in homes and sole proprietorships, and some small offices. In 2009, the assessed value of commercial property was 9.2% of the total Brookline assessment, and the percentage of taxes paid by the commercial sector was 15.9%. Hotel room excise tax brought in \$900,000 and local option meals tax was expected to generate another \$700,000. Less than 6% of the property is zoned commercial, and since 2005, there has been one major commercial development, the 10 Brookline Place expansion, totaling 18,000 sq. feet. Seven colleges and universities also own property in Brookline. (Economic Development Division, Brookline Department of Planning and Community Development, and Brookline Assessors Department).

Commercial business establishments are primarily service businesses located in the small commercial centers along major streets and intersections. These areas, such as Coolidge Corner, Brookline Village, Washington Square and

Putterham Circle, have had a substantial effect on community development, as residential developments have formed around these commercial areas, creating small communities at each village or square.

Overlying this very local development pattern are regional development effects linked directly to the Town's proximity to Boston. Chief among these are high real estate prices (Table 1), constant development pressures, and a regional transportation system that experiences more pressure as the population around Boston increases. Brookline is part of the east-west commuter corridor for Boston. Boylston Street/Route 9 and Beacon Street, in particular, feel the daily stress from development further west. Regional planning to manage the impacts of this growth is essential.

Table 1
Median Assessed Housing Values

Year	Single Family	Condo
FY2001	\$601,500	\$231,300
FY2002	\$667,700	\$257,000
FY2003*	\$756,750	\$322,200
FY2004	\$837,000	\$346,900
FY2005	\$903,850	\$373,700
FY2006*	\$1,017,100	\$411,400
FY2007	\$1,023,550	\$424,800
FY2008	\$986,900	\$411,450
FY2009*	\$1,017,000	\$423,500
FY2010	\$1,022,400	\$423,000
FY2011	\$1,027,300	\$423,900

* Reval

Source: Brookline Assessors Department

Brookline is a desirable residential community because of its rich historical development, location, physical characteristics, natural resources, level of municipal services, land use and the diversity of its population. Overall, Brookline residents have higher incomes than most places in the country and the state. The largest share of households (46.6%) earns \$100,000 per year or more. This is 17.1% higher than the state average in this income category and 26.4% higher than the national average. However, 16.4% of Brookline households have an income below \$25,000 per year. The median household income is \$92,451, compared with \$51,425 for the U.S.; the median family income is \$132,245, compared with \$62,363 for the U.S.; and the aver-

age per capita income is \$60,564, compared with \$27,041 for the U.S. However, there approximately 7% of families and 13% of individuals are below the poverty level, compared with 9.9% and 13.5% respectively for the U.S. (U. S. Census Bureau, 2005-2009 American Community Survey) Historically, the income diversity in Town has been supported by the diverse housing mix which ranges from large estates to small rental apartments. One important municipal objective has been to develop more affordable housing to meet the needs of a diverse group of residents as real estate pressures persist. As of 2010, there were 1,960 affordable units, which is approximately 8% of the housing stock (Housing Division, Brookline Department of Planning and Community Development).

The current economic downturn continues to impact Brookline's ability to obtain new open space, and to maintain existing open space resources.

Figure 1
Property Values and Open Space

A 2007 report from The Trust for Public Land, summarizes data on the economic benefits of parks and open space, and finds the following:

- * *Proximity to parks and open space has a positive impact on property values. Several studies show a 20% average price premium for properties abutting or fronting a park, with substantial positive impacts up to 500-600 feet away, or further depending on the park.*
- * *Parks and open space lands reduce taxes, and investment in parks and open space often yields a better return than land used for development. Several studies show that residential development may cost municipalities an average of 3.3 times the amount for open space.*

Source: *The Economic Benefits of Land Conservation, The Trust for Public Land, 2007*

B. HISTORY OF THE COMMUNITY

Once part of Boston and originally named Muddy River, Brookline was settled in 1630 and incorporated as a separate town in 1705. Between 1630 and 1705, the area was used primarily to graze livestock, as the extensive marshes and wet meadows bordering the Charles and the Muddy River provided rich pasturage. Most owners, how-

ever, continued to reside in Boston.

At this time, the Charles River was tidal for nine miles upstream to Watertown, where a dam subsequently was built. There were mud flats in the Back Bay of Boston and between the Charles and Muddy Rivers. Extensive wetlands, ponds, and streams in Brookline were filled, drained or channeled through culverts during the course of agricultural work and subsequent development. Filling wetlands and draining "problem water" into the storm drain system continued into the 20th century. South Brookline was developed around extensive wetlands; wetland issues continue to be significant in this area.

Between 1636 and 1641, more than 100 land grants were given in the Muddy River hamlet of Boston. Smaller tracts were granted in the north and east of Town; a few larger grants were located in the central and southern portions of Town. Most of the Town's acreage was given to prominent Bostonians whose names denote streets and neighborhoods today, such as Heath, Winchester, Clark, Aspinwall and Devotion. In 1640, a British officer, Captain Joseph Weld, received a 2000-acre land grant which included Goddard Avenue, the Greek Orthodox Church grounds, Park School, Arnold Arboretum and Allandale Farm. This working farm, still owned by descendants of Captain Weld, is a significant element of the Brookline landscape which has flourished for over three hundred years. Neighboring the farm and former home of many generations of Welds is Larz Anderson Park, given to the Town in 1948. Long prized for its views of Boston, as well as the sledding potential of its great Hill, the park overlooks, as it did during the American Revolution, the still-extant farmhouse of John Goddard, George Washington's Wagon-Master.

When Brookline was incorporated in 1705, there were about fifty families residing here, most engaged in farming. Associated light industry developed, including a saw mill, grist mill, forge, and tanneries, but industry never became a significant economic force in the Town. The Sherburne Road, laid out in 1658 by the Massachusetts Bay Colony was, at first, the only land route west from Boston. The Town green was located along this road, where Walnut and Warren Streets intersect.

As transportation routes were developed, residential and commercial areas became established. The population grew rapidly. The Town's civic and commercial center moved from the Town green area to Brookline Village after a new Town hall was



A MAP
of
THE HAMLET OF MUDDY RIVER
afterward
THE TOWN OF BROOKLINE.
1635-1896.

From maps by EF Woodward, and AH French CE.
and an original sketch by Charles Knowles Bolton.

Drawn by HJ Hughes.
1896.



Notes: While the center of Muddy River is still the boundary line with Boston on the northward the center of the stream has recently been diverted through the old route. The old route is shown by a dotted line. The old route is shown by a dotted line.

built there in 1844, and the Boston-Worcester Railroad began operating in the Village in 1847.

Beacon Street was built in 1821 as a continuation of the Mill Dam Road leading west from Boston. It was intended to open the northern part of Brookline for development and to be more convenient for Boston businessmen who wished to live in Brookline. The widening of Beacon Street in 1887 and the introduction of the electric streetcar in 1889 accelerated the development of the northern section of Brookline. By 1900, the Town's population was 19,925. Water and sewer systems had been completed, a public education system with fifteen schools was established and a Parks Commission had been created to administer land set aside for recreation for the burgeoning community. The last section of the Town to be extensively developed was an area in South Brookline, as a result of post-WW II housing demand.

Acquisition of Parks and Sanctuaries

In 1871, Brookline created the first public playing fields in the country, Cypress Field and Boylston Street Playground, and in 1885, built the first public pool. Many of the existing public parks and recreation areas were acquired by 1930, some by outright purchase and some by donation. A more recent acquisition of recreation land was an augmentation of Billy Ward Playground in 1972. In 2008, the Town officially opened Skyline Park on the site of the former Newton Street landfill, though this land was already owned by the Town. At the beginning of 2011, the Town purchased the formerly state-owned Fisher Hill Reservoir for the development and preservation of parkland and conservation land. At present, just over 14% of Brookline's 4,355 acres of land is devoted to Town-owned parks, open space and recreational facilities.

Although there had been earlier proposals to establish bird sanctuaries or conservation lands at Putterham Meadows, Hall's Pond, Lost Pond and the D. Blakely Hoar property, it was not until 1960 that the Town's first conservation land was established, the D. Blakely Hoar Sanctuary, on land from a bequest by a former resident. Hall's Pond Sanctuary was established in 1975 and the adjacent Amory Woods in 1977. Lost Pond Conservation Area was formed in 1982, by a transfer of land which formerly was part of the Town's Newton Street landfill.

History of Planning and Zoning

In 1914, the Town's first Planning Board was established with Frederick Law Olmsted, Jr., co-author of the nation's first planning enabling legislation and son of the designer of the Emerald Necklace park system, serving as Chairman. One of the first decisions was to establish a setback policy regarding building lines for specific streets, particularly those witnessing the construction of apartment buildings, residential hotels, and stores.

The Planning Board wrote in 1915, "Almost every year now sees more numerous and more costly buildings erected close to the side lines of streets which are liable to prove too narrow for the traffic of the future; and every season sees new inroads upon the established character of many residential streets through disregard of the customary setback which has hitherto maintained a margin of cheerful green between the buildings and the sidewalk."

Brookline's 1922 Zoning By-Law was one of the first in Massachusetts. By 1949, separate districts for single-family, two-family and multi-family housing had been introduced and parking requirements had been established. Controlled growth, both in density and building size, were goals of the first Comprehensive Plan in 1960.

Nonetheless, as growth increased in the most populous parts of Town through the 1960s, many people became concerned about the quality of life in Town. In the early 1970s, the public's negative reaction to a number of large developments and high-rise buildings sparked a substantial down-zoning. As a result, very little development took place in Brookline's commercial areas for the following 20 years.

Proposition 2 ½, a statewide property tax limitation measure, was passed in 1980. This legislation capped municipal property tax revenue at its 1980 level, plus 2 ½ % per year. Exceptions were granted for new buildings and local overrides. Faced with Proposition 2 ½ and the Town's need for new revenue sources, in 1989 the Selectmen appointed a Development Committee to work with neighborhood groups on zoning amendments that would foster appropriate development.

In the late 1990s, a strong economy and accompanying development raised concerns about loss of open space, loss of off-street parking and








Town of Brookline, Massachusetts

Zoning Map 10-Y

Amendment to Zoning Map 10-X
Adopted by Town Meeting on 11/16/2010



LEGEND

-  Coolidge Corner Design Overlay
-  Fisher Hill Town Reservoir Design Overlay
-  Renewable Energy Overlay District (SOL)
-  FEMA Zone A: 100 Year Regulatory Floodplain
-  Town Boundary
-  Zoning District Boundaries
-  Pavement Edges

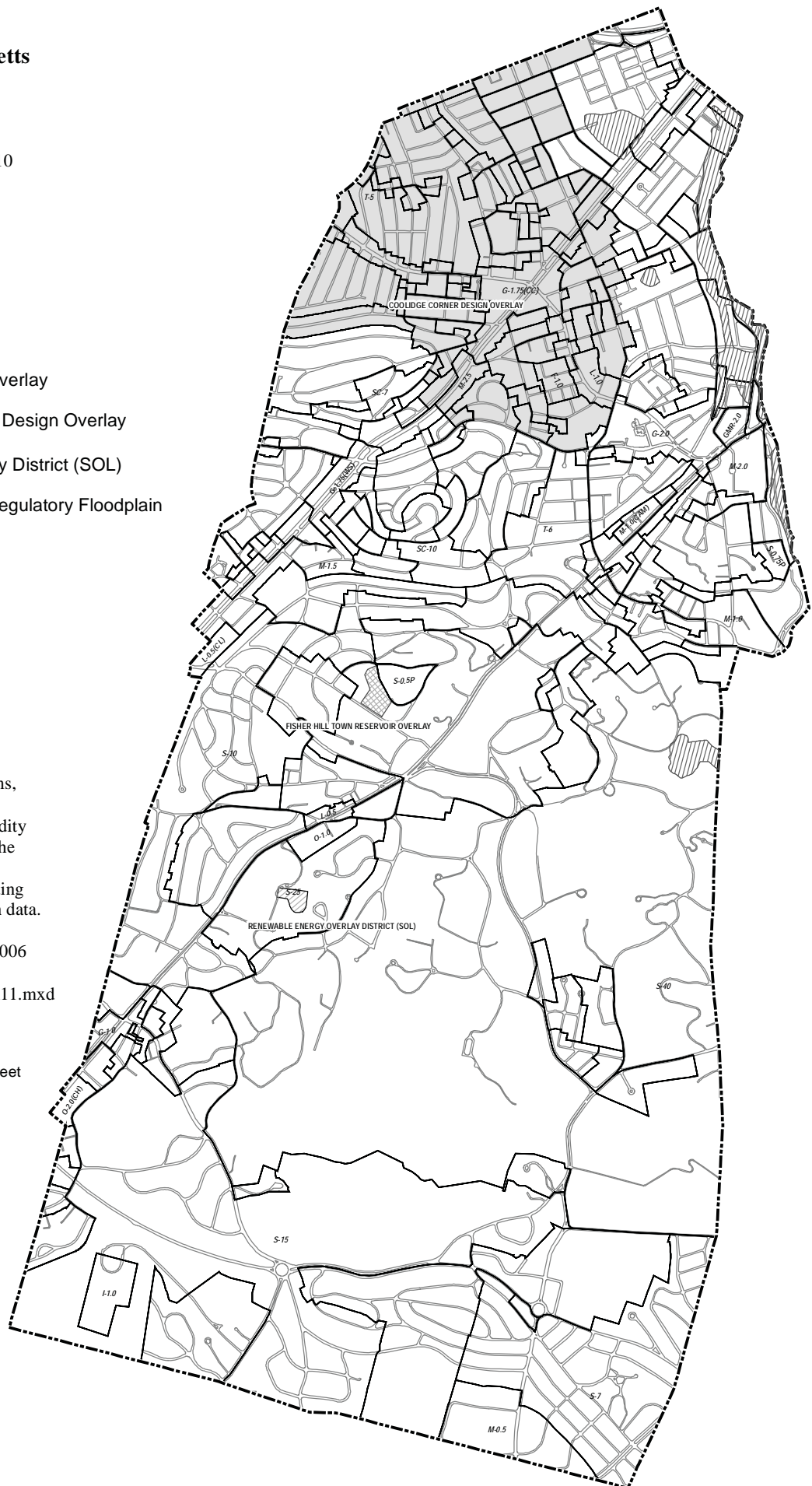

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Map created by Brookline GIS on 08/2006

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<http://www.town.brookline.net/gis/>

traffic congestion. In addition, with the end of rent control in the 1980s and rise in housing prices, Brookline was faced with a shortage of affordable housing. Continuing pressure from Proposition 2 ½ led to the need to examine revenue and services too. To address these needs and demands, the Town instituted a planning process which culminated in the recently published Brookline Comprehensive Plan 2005-2015.

In the past 40 years, the overall trend in Town zoning has been to reduce the amount of development allowed. Recent Zoning By-Law amendments include the creation of a new three-family zoning district that replaced several multi-family zones, and an overlay district in Coolidge Corner designed to protect existing buildings. In addition, the past few years have seen the creation of several new Local Historic Districts where new development requires the approval of the Preservation Commission.

C. POPULATION CHARACTERISTICS

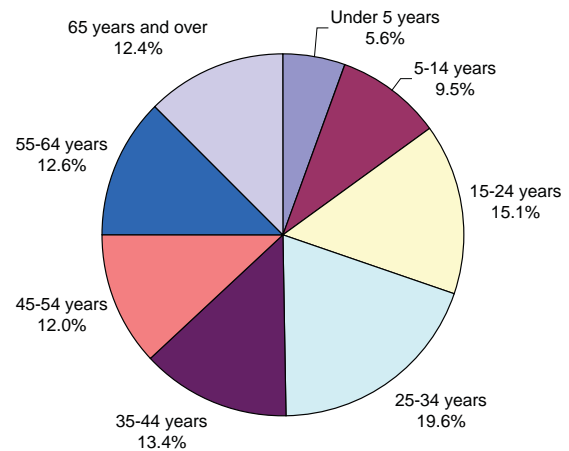
According to the 2010 Census from the U.S. Census Bureau, the population of Brookline is 58,732. The population of the Town has varied slightly in both directions since 1950, with an earlier peak in 1970 at 58,689.

Brookline's demographic profile has changed substantially over the last generation (Figure 2). Some of these long-term changes reflect national demographic trends, such as smaller household size, more single-person households, fewer family households, a reduction in the school-age population and increases in the pre-school population. Young adults and older teens comprise the largest portion of the Town's population with almost 20% of the total population in the age range of 25 to 34 years, and just over 15% in the age range of 15-24 years. Children up to 14 years of age comprise another 15% of the population, and the other age groups (35 to 44, 45 to 54, 55 to 64, and 65 and over) each comprise approximately 12.6% on average.

The population breakdown by age in Brookline is somewhat different from that in Massachusetts and the country generally (Figure 3). Brookline has an unusually large proportion of young adults. In the age range of 25 to 34 years, Brookline's population is approximately 6.5% higher than the averages for the state or the country. Brookline also has relatively fewer children, with the population in the age

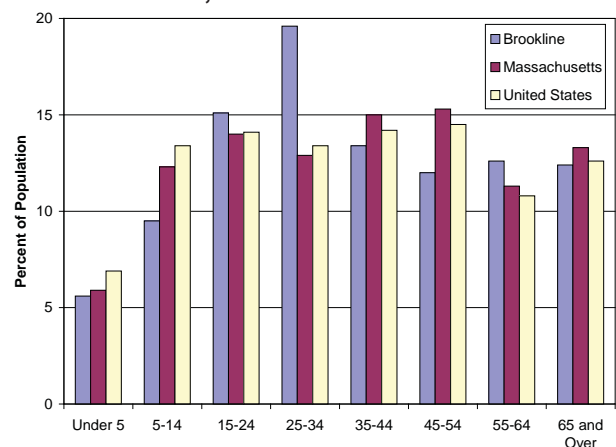
range of 5 to 14 years being approximately 2.8% lower than the state average and 3.9% lower than the national average. In the age range of 45 to 54 years, Brookline's population is 3.3% lower than the state average and 2.5% lower than the national average. All other age groups vary by less than 1.8% from state and national averages. The senior citizen population, which rose proportionally from 1960 to 1990, declined in a proportional sense between 1990 and 2010. The differences in Brookline's population and the state and national averages are generally less significant than they were in 2005.

Figure 2. Population Breakdown by Age Group for Town of Brookline



Source: U.S. Census Bureau, 2005-2009 American Community Survey

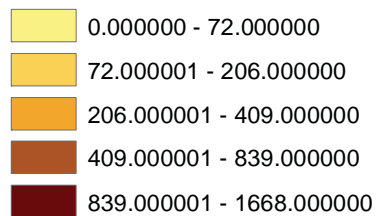
Figure 3. Population Age Group Comparison for Town of Brookline, Commonwealth of Massachusetts, and the United States



Source: U.S. Census Bureau, 2005-2009 American Community Survey

Population Map

Persons per Census Block



— Pavement Edges

Data Sources

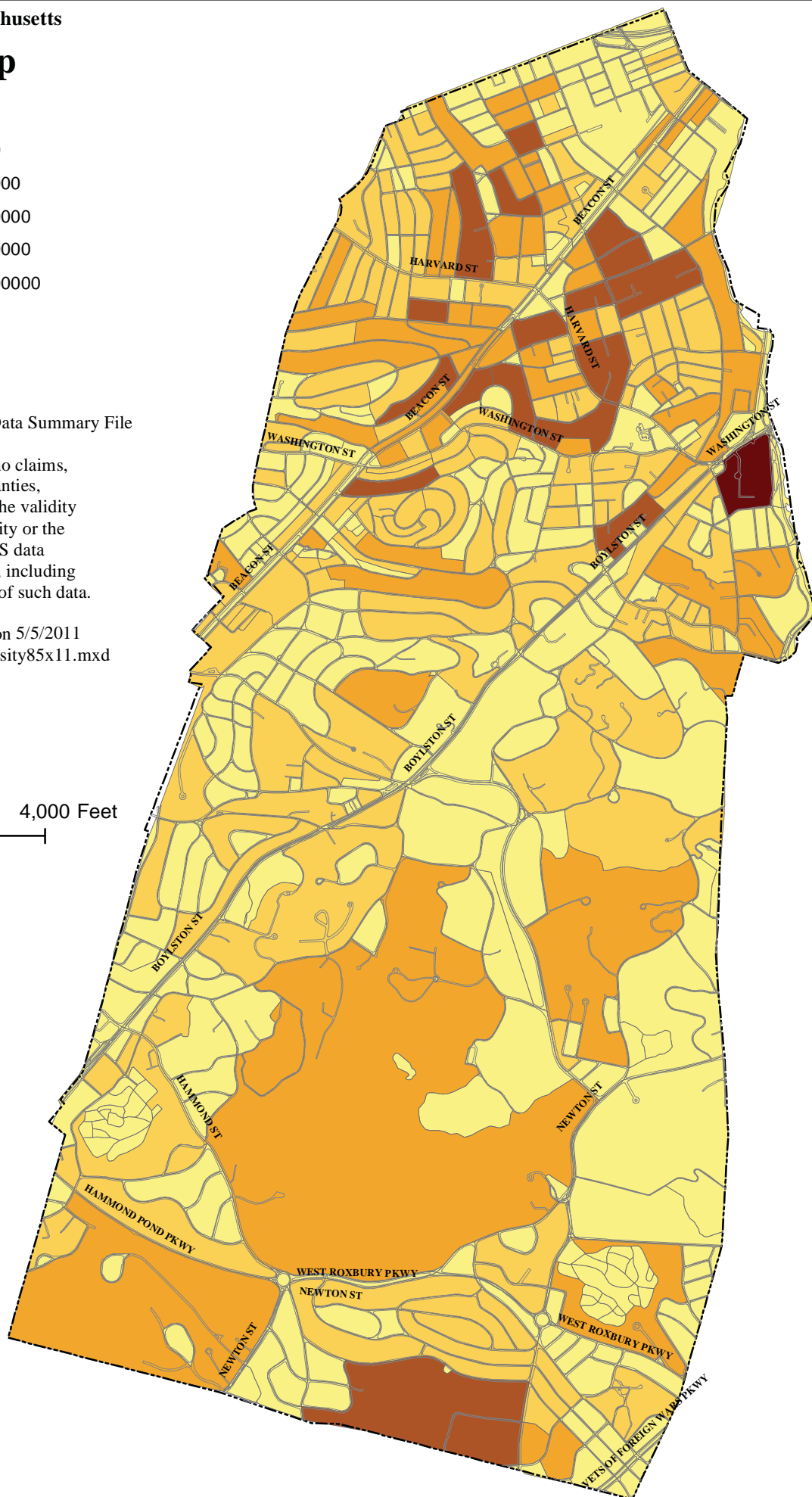
US Census 2010 Redistricting Data Summary File and Brookline GIS database.

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Demographics and population play a significant role in determining the community's open space and recreational needs. Detailed recommendations for park and recreational programming based upon these population and demographic trends, as well as other factors, are made in the 2006 Brookline Parks Open Space and Recreation Strategic Master Plan. Of particular relevance to open space acquisition are the following recommendations:

1. Thirty-five additional acres of land should be acquired or developed by Brookline by 2010 for open space and recreational purposes. This new land is in addition to the former Newton Street landfill site, a large portion of which is currently Skyline Park, and the former Fisher Hill Reservoir property, both of which have been or will be redeveloped to include active recreational uses as well as passive, natural open space and wildlife habitat.
2. Of this land, half should be reserved for passive recreational or conservation uses.

These recommendations are still relevant and timely in 2010 and should be considered going forward. In addition, a survey of local residents, conducted as part of the development of the Parks Open Space and Recreation Strategic Master Plan, revealed open space needs as a high recreational priority of residents (Table 2). The top priority identified by residents was "Open Space Acquisition and Preservation." Among the 19 highest priority items, "Parks - General" ranked second, "More Trails/Bike Paths" ranked third and "More Sanctuaries/Nature Center" ranked fifth.

<p>Table 2 Brookline Citizens' Priorities for New Facilities Relative Importance Ranked on Scale of 1 (not important) to 4 (very important)</p>		
Facility	% Respondents Rating "4" (Very Important)	Mean Score for all Respondents
Open Space Acquisition, Preservation	48.1%	3.27
Parks - General	33.3	3.05
More Trails/Bike Paths	31.4	3.06
Fitness Center	29.7	2.89
More Sanctuaries/Nature Center	26.8	2.78
Outdoor Pool	26.1	2.70
Share with School Department	25.6	2.85
Performing Arts/Cultural Center	24.2	2.76
Parks - Organized Sports	21.3	2.63
Community Center	19.6	2.66
Indoor Leisure Play Pool	18.1	2.48
Picnic Areas/Pavilions	17.9	2.62
Indoor Ice Rink	17.1	2.44
Indoor Warm Therapy Pool	14.7	2.35
Amphitheater	11.8	2.32
More Gymnasiums	8.9	2.14
Skateboarding/In-Line Skating	7.2	1.83
BMX Bicycle Course	5.1	1.79
In-Line Hockey Court	1.9	1.54
Source: Brookline Parks, Open Space and Recreation Strategic Master Plan, June 2006 (Table 2.6)		

D. GROWTH AND DEVELOPMENT PATTERNS

Patterns and Trends

From incorporation in 1705 until the mid 1800s, Brookline was largely a rural, agricultural community with some light industry. Brookline's evolution to a suburban residential community began during the 19th Century as the Boston population expanded and wealthy merchants began to purchase large areas of farmland for elaborate homes. Fortunately, these first developers had the wisdom and wealth to create neighborhoods that can still be used as templates for successfully combining the natural and the built environment. Both David Sears, at Cottage Farm in the 1830's, and Amos A. Lawrence, at Longwood in the 1850's, ensured that buildings were always sufficiently balanced by the presence of trees, parks, and playgrounds. Cottage Farm and Longwood Mall are listed in the State and National Register of Historic Places.

Respect for the local natural environment was not an isolated trend. Brookline continued to benefit from the actions of other enlightened developers and designers, such as Alexander Wadsworth, who built the park-like residential areas of Linden Square and St. Marks Square, and Thomas Aspinwall Davis, a developer who put set-back requirements and use restrictions into the master deeds of his homes.

During the second half of the 19th Century, Brookline became the residence of many renowned architects and landscape architects, whose vision and talent left a lasting national as well as local imprint on the cultural landscape.

Among the most prominent was Frederick Law Olmsted, who made both his home and office in Brookline. His designs for the Emerald Necklace and Beacon Street translated the concept of European pleasure gardens and grand boulevards into the American vernacular and they remain today an inspiration for community planners. Olmsted and his successors in the firm continued to influence the development of the Brookline landscape well into the 20th Century.

The early 20th Century saw a continuation of the residential trends begun earlier. Major development along Beacon Street and Commonwealth Avenue continued, the grand houses and apartment

structures creating an impressive boulevard. Smaller, multi-family dwellings were built as homes for those who worked at the large estates, and additional apartment buildings in North and Central Brookline became residences for the early commuters to Boston. South Brookline maintained a largely rural quality until the end of WWII, when small, suburban development came to several areas. A particularly striking mid 20th Century cultural landscape is Hancock Village. Developed as a community for returning soldiers and their families, its small, attached two-story brick buildings are set in and around low puddingstone hillocks surrounded by broad green lawns well-suited to the games of children and neighborly interaction.

Today, with property values remaining high in Brookline, there continues to be a gradual but notable trend toward replacing smaller single family homes with larger homes.

Infrastructure

Traffic and Transportation

Major transportation routes from Boston pass through Brookline toward the western suburbs, toward Cambridge, and the southern parts of the City of Boston. The earliest route from Boston to the west was the old Sherbourne Road, which passed through Brookline via Walnut and Heath Streets, and was replaced by Boylston Street (Route 9), which remains a major route between Boston and the communities along the Route 128 corridor. Beacon Street was built as a second major roadway to and from Boston. Harvard and Washington Streets in Brookline provided north-south through-routes from southern portions of Boston to Allston, Brighton and Cambridge. These early roadways continue to shape Brookline's development.

Three of the Massachusetts Bay Transportation Authority (MBTA's) green lines serve Brookline: the B line along Commonwealth Avenue, the C line to Cleveland Circle, and the D line to Riverside in Newton. The bus routes are: Allston-Ruggles via Harvard St., Chestnut Hill from Kenmore via Route 9, Cleveland Circle from Forest Hill via Putterham, Central Square to Cleveland Circle, and Brighton.

Access points to other major routes are available through Brookline's streets. The Massachusetts Turnpike and Storrow Drive and Memorial Drive carry east-west traffic, Route 1 and Riverway and Fenway carry traffic to southern sections of Boston,

MBTA Bus Routes and T Lines

Town of Brookline, Massachusetts



Legend

- Bus Stop
- T Stop
- Summit Ave. T Stop Name
- Bus Routes
- MBTA Green Line
- Street Center Lines
- Brookline Town Boundary
- Open Space

Data Sources:

All the data layers on this map are from Brookline GIS.

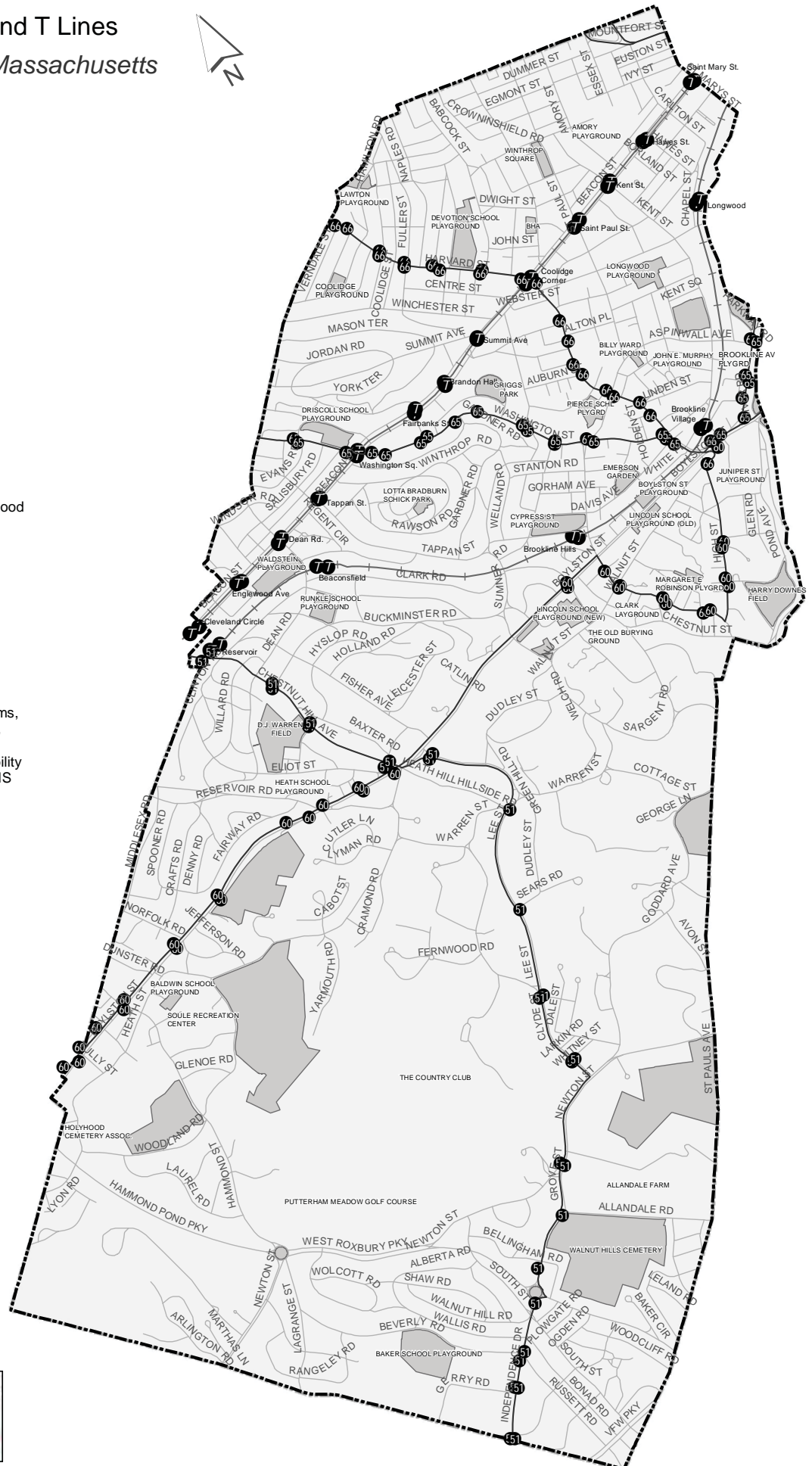
The Open Space shown on this map includes Community Parks, Neighborhood Parks, Golf Course, Cemeteries, Agricultural /Recreation Land and School Playgrounds.

Map Disclaimer

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Map created by Brookline GIS in March 2010
Map document: Projects\parks\mba-85x11-BW

COMMUNITY SETTING

Newton and southwest suburbs. Many residential streets are used extensively to access these routes and are particularly impacted by rush hour traffic.

Development on Route 9 regionally includes sections of small businesses and residential areas interspersed with large suburban-style businesses, complete with large parking lots. In Brookline, Route 9 currently is under careful scrutiny and comprehensive planning for its potential for economic development. Along the Newton portion of Route 9 there have been several major new development plans and proposals that include parcels close to Chestnut Hill Village and would substantially increase traffic. One option that has been raised is to depress Route 9 in this area to create better north-south pedestrian travel in Chestnut Hill and allow for more green space, as well as create a village center for the Chestnut Hill area.

Transportation by bicycle is increasing in Brookline, and has been improved with the creation of designated bicycle lanes on several streets. The Olmsted and Riverway Park system does include popular bicycle and pedestrian paths, but the difficulty of crossing at Route 9, which divides the park parcels, has long been under discussion. Any solution must involve participation of the state, especially of the Massachusetts Highway Department which oversees Boylston Street/Route 9, as well as the City of Boston, since this area is on the boundary line.

Walkways include an extensive network of sidewalks within the more urban sections of Brookline, however some southern and western sections of Town lack sidewalks. Brookline does have several well planned walking paths including those along the Muddy River, walkways and trails in the Town's parks and sanctuaries, and the pedestrian paths and stairways which scale the hills of North and Central Brookline.

Water Supply Systems

Brookline is a member of the Massachusetts Water Resources Authority. Because elevations in the Town range from 7 feet to 340 feet above sea level, two separate distribution systems are required to provide water service to the entire Town. Without this arrangement, pressures would be extremely high in the low elevations and inadequately low in the high elevations of the Town. Static pressures in both systems are maintained between 20 and 120 pounds per square inch.

The Low Service System is supplied from two direct connections to the MWRA's Southern High Service System at Fisher Avenue. Water flow into the system is measured through two venturi meters owned and maintained by the MWRA. Low service distribution mains supply water to most sections of Town east of Washington Street and north of Boylston Street, representing 62 percent of the total water consumption.

The High Service System is supplied from two pumping stations on the MWRA's southern Extra High Service System. Primary supply is made through a connection to the discharge piping of the MWRA's Reservoir Road Pumping Station. In periods of high demand or other system emergencies, a secondary supply from the Newton Street Pumping Station can be placed on line. The purpose of both stations is to elevate the supply pressure to service the higher elevations of Brookline. Distribution system storage is provided at the highest land elevation in Town, Single Tree Hill, and consists of a 4.3 million gallon covered reservoir and a 1.7 million gallon steel spheroidal elevated tank.

Sewer Service

The Town of Brookline's sewer system is comprised of about 100 miles of local sanitary sewers which discharge to MWRA interceptors tributary to either the Nut Island or Deer Island wastewater treatment facilities. About 16 miles of Brookline's system are tributary to the Southern High Level Sewer, and about 45 miles are tributary to the Brighton Branch High Level Sewer; each of which transports waste water to the Nut Island Treatment Plant. Finally, about 33 miles of Brookline's sewers are tributary to the Charles River Valley Low Level Sewer which transports waste to the Deer Island Treatment Plant.

The entire waste water collection system in Brookline flows by gravity (no public pump stations) and consists of both separated and combined areas which are maintained by the Water and Sewer Division. Most of Brookline's sewers are 40 to 70 years old and are constructed of vitrified clay and, to a lesser extent, brick or reinforced concrete. All manholes are constructed of brick, block or precast concrete.

Storm Drain Systems

The Town of Brookline has approximately 117 miles of storm drains that carry runoff from rain and

snow melt. The drainage network generally follows Town streets, and has been built to carry stormwater runoff entirely by gravity to nearby water bodies. In general, stormwater flows into Brookline's streets, collects in gutters, and flows through a street level grate or curb inlet into a catch basin. Brookline has approximately 2,344 catch basins, most of which are designed with a sump to collect sediment, litter and other debris, and approximately 1,675 drain manholes. Water flows out of the catch basin into a central storm drain under the street. These drains merge into large collector drains, and ultimately into very large conduits that carry stormwater runoff into the Muddy River, Saw Mill Brook, Stony Brook or directly into the Charles River (Brookline Engineering Division).

Brookline's drains are mostly made of reinforced concrete pipe, and vary in diameter from as small as 12 inches to larger than 100 inches. The Village Brook drain, which drains most of Brookline's land area and discharges to Leverett Pond, is large enough to drive a car through. Many of Brookline's largest storm drains discharge to the Muddy River, and their outfalls can be submerged when the river begins to rise during heavy storms. This can contribute to flooding problems as flows in the drains have no way to drain out to the river. The Muddy River Restoration Project, currently in design by the US Army Corps of Engineers, should help alleviate some of these flooding problems.

Stormwater runoff from Brookline is regulated by the United States Environmental Protection Agency (EPA) under the Clean Water Act. Brookline's stormwater system is managed in accordance with its Municipal Separate Storm Sewer System (MS4) Permit, which requires good housekeeping practices such as regular street sweeping and inspection and cleaning out of catch basins, ensuring that sanitary sewage is not getting into storm drains, and public outreach and education efforts. Brookline will be receiving a new MS4 permit in the near future, which will likely have new requirements designed to reduce the volume of stormwater flowing directly into rivers, and to reduce the levels of pollution in stormwater runoff. Pollutants of critical concern include sediments, which accumulate in storm drains and water bodies, and nutrients, especially phosphorus, which contribute to excessive weed and algae growth in rivers, lakes and ponds.

Long-Term Development Patterns

Brookline has approximately 26,448 total housing units, with almost 95% of these units occupied (U.S. Census Bureau, 2010 Census). According to the Brookline Comprehensive Plan 2005-2015, the average increase in housing units has been relatively stable for the last thirty years. After a growth spurt during the 1960s, when Brookline added an average of 358 new housing units annually, the number of housing units has continued to increase each year, but at a slower pace. The number of new housing units created in 1980-2000 was less than one-third the number created in 1960-1980. Since 2000, the rate has been similar, and this steady growth pace may continue into the future, if other factors do not intercede. Higher growth could occur if large properties currently in institutional use or currently developed at low densities were to be redeveloped. Growth will also depend on market conditions, which were favorable for residential development in the late 1980s and late 1990s, and less so in the early 1990s and early 2000s due to economic recessions. The current economic downturn is also likely to impact future growth patterns.

While the overall trend in the creation of housing units shows stability over the last generation, the composition of the housing stock has altered somewhat. According to the Brookline Comprehensive Plan 2005-2015, a comparison of 1990 and 2000 census data showed that the proportion of housing units that are single-family or in multi-family buildings of different sizes had not changed significantly. More recent reports from the Brookline Assessors Department show that 48% of Brookline's housing units are in buildings containing nine or more units, while only 17% are single-family, indicating a movement towards a greater proportion of units in larger buildings.

Population densities in the Town vary greatly. As information developed in the 2006 Parks, Open Space and Recreation Strategic Master Plan indicates, densities are much higher in the northern parts of Brookline, ranging to more than 28,000 per mile for some neighborhoods and averaging at least 7,500 per square mile through North Brookline. In the south, the densities are consistently less than 7,500 throughout.

The 2006 Parks, Open Space and Recreation Strategic Master Plan uses density information, among other factors to calculate target Level of Service standards for Brookline. In that Plan, these targets include the acquisition of 35 additional acres

COMMUNITY SETTING

of land (including open space/conservation, active outdoor and facility siting uses), excluding the former Newton Street landfill and the Fisher Hill Reservoir, both of which were counted as planned, future parks. A large section of the Newton Street landfill has now been transformed into Skyline Park.

The Brookline Comprehensive Plan 2005-2015 identifies three key planning and development goals, all of which have implications for open space in Brookline. The first goal is planning for better districts and neighborhoods. The protection of neighborhood character, attractiveness, safety and functionality while accommodating desirable changes includes planning and zoning strategies to preserve and enhance open space. One recommended strategy is the creation of Neighborhood and District Plans with development and design standards that accommodate open space goals.

Another long-term development goal is to increase affordable housing in Brookline. The Brookline Comprehensive Plan 2005-2015 sets a goal of creating, through conversion and new construction, an average of 25 affordable units per year for the next 25 years. This would more than double the current production and produce 625 units, allowing Brookline to meet the 10% affordable housing unit standard set by the state in Chapter 40B. As mentioned earlier, currently approximately 8% of the housing units are affordable units. The Plan stresses conversion of existing market-rate housing into affordable units which would not impact open space. Another strategy contributing to the creation of such additional housing might be the adoption of as-of-right greenway/open-space cluster (GOSR) zoning for large parcels of land. This form of cluster zoning emphasizes the preservation of valuable open space and natural resource features during development of the parcel.











The Route 9 corridor is cited by the Brookline Comprehensive Plan 2005-2015 as one of the most persistent and challenging planning issues facing the Town. The third key recommendation is to develop a Route 9 Plan that looks at the corridor from a regional perspective with a focus on increasing the attractiveness and livability of the corridor. The Plan envisions the creation of an attractive "Gateway East" to the Town at Brookline Village. This would include strengthening the connection between the Emerald Necklace Parks which are divided by Route 9 at that point. The planning process is currently underway for the "Gateway East" project.

A new "Gateway West" at the Chestnut Hill commercial area would include planned changes to improve pedestrian connections and enhance open space. At other points on the corridor, the Plan envisions the creation of a pedestrian-oriented mixed-use development. Route 9 has been viewed as an important opportunity for commercial development that would expand the community's tax base.

From the perspective of current zoning, Brookline is near build-out. Most of the potentially subdividable parcels that remain are located in the southern part of Town. Future development patterns and planning may have significant implications for open space.

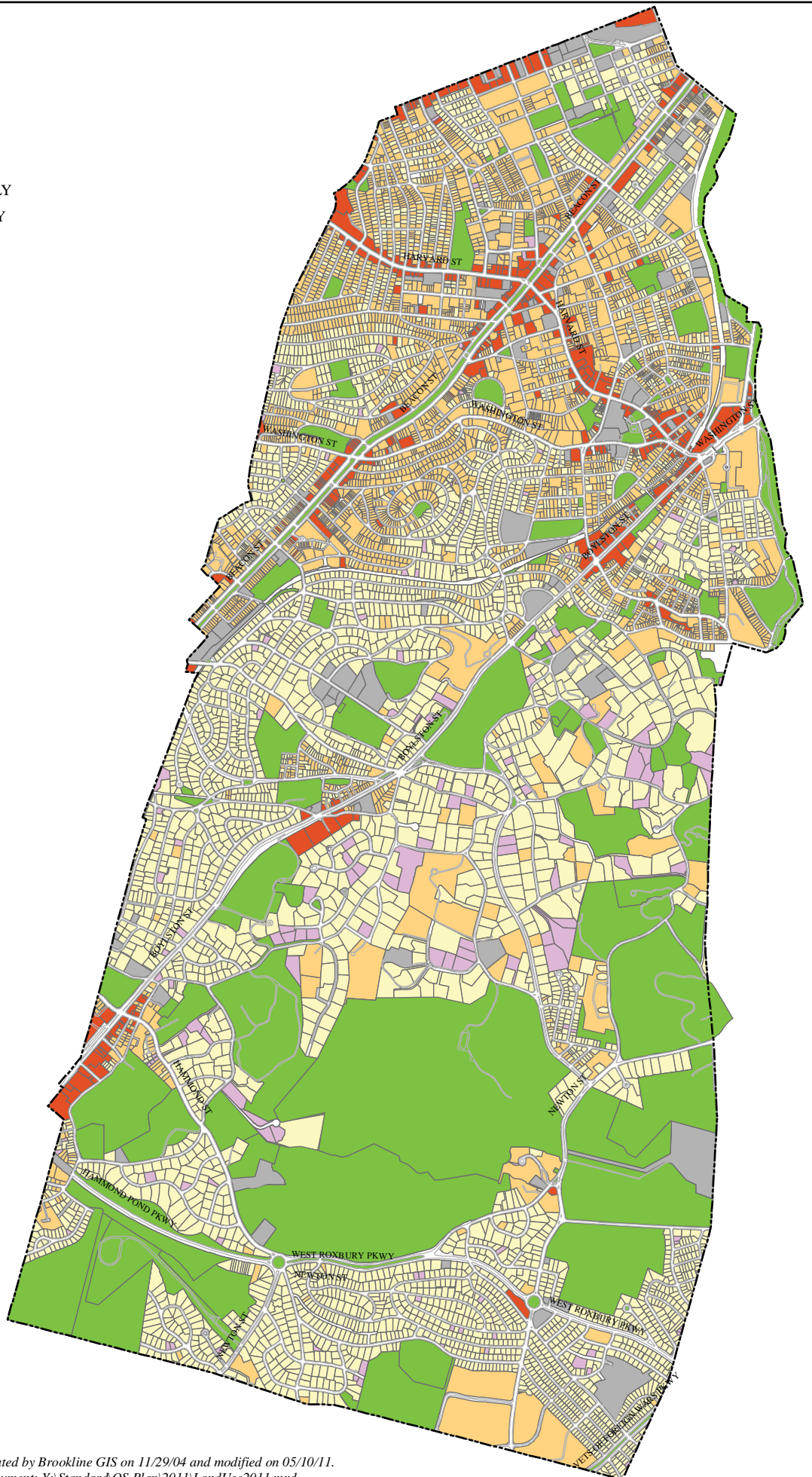
EXISTING LAND USE

LEGEND

-  ALL OTHER VALUES
-  RESIDENTIAL - SINGLE FAMILY
-  RESIDENTIAL - MULTI-FAMILY
-  COMMERCIAL/MIXED USE
-  INSTITUTIONAL
-  OPEN SPACE
-  CONDO-PARKING
-  RESIDENTIAL VACANT
-  TOWN BOUNDARY
-  EDGE OF PAVEMENT



0 750 1,500 3,000 Feet



Louise Kent's Story

"When your mother was a little girl, there was still an old road in Brookline that had never been improved. It was called the Two Mile Road and it ran from Heath Street in Chestnut Hill through a piece of woodland that had belonged to my grandfather and then across Newton Street in the direction of Roxbury. I rode over it on a horse many times when I was a girl, and when your mother and uncle were little . . . If you wanted to go back into the seventeenth century and see what Brookline was like, you could just go and look for Lost Pond.

On all sides of it there was a swamp - a colonial swamp for all you could tell. Marshy plants grew out of the wonderful black dirt. There was only one path to the pond. If you missed it you would soon be up to your knees in mud. Trees and bushes were so thick along the path and around the pond that you couldn't see even a gleam of water until you got close to the edge. . .

In wintertime when the ground was hard and the trees were bare, the pond was easier to find than at other seasons. I remember once coming on it sooner than I expected and seeing a pair of wonderful skaters waltzing there. The pond seemed like a secret ballroom with a silver floor and the walls hung with dark tapestries. The ballroom had a lamp because the full moon was just coming up over the trees. I never put my skates on but just stood there, watching the skaters whirling, dipping, and gliding until my feet almost froze. Then I went away through the dark woods. For a while I could hear the music of the skates ringing on the ice, but as I came out on the Two Mile Road again, I thought I must have dreamed that the waltzers were there."

Louise Kent, *The Brookline Trunk*, 1955

SECTION 4

ENVIRONMENTAL INVENTORY AND ANALYSIS

A. GEOLOGY, SOILS, AND TOPOGRAPHY

Brookline's 6.8 square miles (4,355.4 acres) are located in the lowlands of the Boston Basin, on average between 50 and 140 feet above sea level. However, the many hills that spread across the landscape are among the highest points in the basin. At 340 feet, Single Tree (also known as Lyman) Hill is the highest point in Town.

Continental drift, volcanoes, sea level changes, glaciers, and humans have acted on the landscape over the years to shape the bedrock and surficial geology of Brookline into its present form. The bedrock that forms the Town's foundation is of three varieties: Roxbury conglomerate, Cambridge slate, and Brighton melaphyre. The bedrock geology of North Brookline is not well known and outcrops of Cambridge slate, which appears as a dark bluish gray to brownish gray shale or slate, can be seen between Beacon Street and Clark Road and east of Cleveland Circle to Tappan Street. Brighton melaphyre is a greenish, brownish, or purplish basaltic volcanic rock. Outcrops can be seen near Lost Pond. Probably the best known is the Roxbury conglomerate or "puddingstone" on which most of South Brookline rests. Numerous outcrops of puddingstone, which consists of waterworn rocks cemented together with other minerals, can be seen throughout this part of Town, including in the D. Blakely Hoar Sanctuary.

Glaciers scoured the land 10,000 to 12,000 years ago. When the ice sheets expanded across the landscape, they removed all plant and animal life. The coastal areas of New England sank below sea level due to the great weight of the ice. When the glaciers receded, the major features of the landscape we see today remained. The most prominent features are the drumlins, hills composed of glacial till (rock and clay) formed in the shape of an inverted teaspoon and pointing in the direction of the glacial flow.

Brookline has seven major drumlins: Corey Hill, Fisher Hill, Single Tree Hill, Walnut Hill, Larz Anderson Park Hill, Aspinwall Hill, and Mount Walley (Table 3). In addition to the till, glaciers left deposits of sand and gravel, particularly in the northern and southwestern portions of the Town.

Table 3
Brookline's Drumlins
Elevations above sea level

Aspinwall Hill	240 feet
Corey Hill	260 feet
Fisher Hill	270 feet
Larz Anderson Park Hill	290 feet
Mount Walley	310 feet
Single Tree Hill	340 feet
Walnut Hill	310 feet

Glaciation also left kettle ponds, such as Lost Pond, and wetland areas across the Town.

In areas where bedrock is close to the surface, there is a potential for flooding during heavy rains due to insufficient soil cover. Soil acts like a sponge to soak up and retain rain water. Typically, deeper soils have a greater potential to absorb water. When the soil reaches its maximum absorption capacity, water moves through the soil, and then migrates over the bedrock to lower elevations. In many cases, the lowest point may be the basement of a house. Many bedrock areas have steep slopes. Removing vegetative cover on steep slopes will increase the chance of soil erosion. Future developments should consider the depth to and location of bedrock because it influences site drainage and drainage patterns in a given area.

Soils

The surface geology of Brookline is the result of the material or debris left behind by glaciers, erosion and sedimentation, and human alterations. In general, Brookline soils are either glacial till or sand and gravel. Soils are classified by the U.S. Department of Agriculture's Natural Resources Conservation Service, based on physical and chemical properties in their horizons or layers, such as color, texture, structure, etc.

Most of North Brookline is classified as one of several different types of urban land complexes. Urban land complexes are defined as areas where 75 percent or more of the land is covered with impervious surfaces. Impervious surfaces consist of buildings, roadways, parking lots, and are typical of

TOWN OF BROOKLINE, MASSACHUSETTS

SOIL MAP

LEGEND

- Soil Boundary
- Major Streets
- Town Boundary

SOIL TYPE INDEX

CaB,CcC	CANTON FINE SANDY LOAM - 3 to 15 Percent slopes
CdC	CANTON-URBAN LAND COMPLEX - 3 to 15 Percent slopes
ChB,ChC	CHARLTON-HOLLIS-ROCK OUTCROP COMPLEX - 3 to 15 Percent slopes
CuC	CHARLTON-HOLLIS-URBAN LAND COMPLEX - 3 to 15 Percent slopes
HdD	HINCKLEY LOAMY SAND - 15 to 35 Percent Slopes
HrC,HrD	HOLLIS-ROCK OUTCROP-CHARLTON COMPLEX - 3 to 35 Percent slopes
MmB,MmC,MmD	MERRIMAC FINE SANDY LOAM - 0 to 15 Percent slopes
MnB	MERRIMAC - URBAN LAND COMPLEX - 0 to 8 Percent slopes
MoB,MoC	MONTAUK FINE SANDY LOAM - 3 to 15 Percent slopes
NpB,NpC,NpD	NEWPORT SILT LOAM - 3 to 25 Percent slopes
NuC	NEWPORT-URBAN LAND COMPLEX - 3 to 15 Percent slopes
PtB	PITTSFORD SILT LOAM - 2 to 8 Percent slopes
Ra	RAYNHAM SILT LOAM
RdA	RIDGEFORD FINE SANDY LOAM - 0 to 5 Percent slopes
RoD	ROCK OUTCROP-HOLLIS COMPLEX - 3 to 25 Percent slopes
Sb	SCARBORO AND BIRDSALL SOILS
ScB	SCIO VERY FINE SANDY LOAM - 2 to 5 Percent slopes
SeB	SCITUATE FINE SANDY LOAM - 3 to 8 Percent slopes
SuB	SUDBURY FINE SANDY LOAM - 2 to 8 Percent slopes
Sw	SWANSEA MUCK
Ud	UDORTHENTS - LOAMY
Ue	UDORTHENTS - WET
Uf	UDORTHENTS - REFUSE SUBSTRATUM
Ur	URBAN LAND - 0 to 15 Percent slopes
Uw	URBAN LAND - Wet substratum
W	WATER
WaA	WALPOLE SANDY LOAM 0 to 5 Percent slopes
WhA	WHITMAN FINE SANDY LOAM - 0 to 5 Percent slopes
	- Extremely Stony

DATA SOURCES

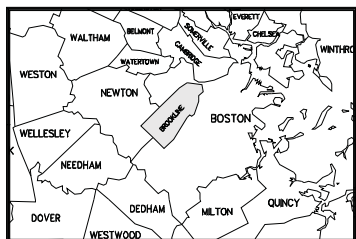
SOILS: Natural Resources Conservation Service (NRCS), U.S. Department of Agriculture. 1998.

STREET EDGES, BRIDGES, RAILROADS: Boston Edison Company.

STREAMS, RIVERS, PONDS: Boston Edison Company.

TOWN BOUNDARY: Boston Edison Company. Updated by Camp Dresser and McKee, Inc. and it is based upon Brookline Assessor's map sheets. 01/1997.

LOCUS MAP



BROOKLINE
GIS

Map Scale 1:31000



business, commercial, and industrial areas. Essentially all the rain that falls in these areas runs off into storm drains that are required to handle the excess water. Examples of these areas are on Beacon Street at Washington Square and Coolidge Corner. It is difficult to determine soil types in these areas because much of the soil has been mixed up, removed, replaced with other materials, and resides under pavement, concrete, and/or buildings. Development limitations vary because soil types are relatively unknown below the impervious surfaces that cover most of North Brookline. When the impervious cover is removed there is a risk of erosion. Without protective controls (e.g., hay bales, silt fences or other methods), eroded soils can wash into the storm drain and discharge into water resource areas like Hall's Pond, Leverett Pond, the Muddy River, and the Charles River. Erosion and sediment control practices should be implemented during all phases of construction in these areas. Future developments/redevelopments should try to reduce the amount of impervious areas where practical and try to incorporate practices to retain rain water onsite and reduce the amount of runoff to the storm drain system.

In South Brookline, there are a variety of different soil types. Hydric or wetland soils are generally classified as Swansea muck, a deep (52 inches or greater) organic soil with a seasonally high water table. Much of Putterham Meadows rests on this soil. Allandale Farm contains prime agricultural soils, including soils in the Canton, Scituate, and Sudbury series. Prime agricultural soils, including the Sudbury and Merrimac series, are also located south of Sargent's Pond on undeveloped land, which has been used in the past for cultivation. Residential development limitations on agricultural soils range from slight to moderate. Putterham Woods and Dane Park are characterized by soils in the Hollis series, which are comprised of a thin layer of loamy soil over shallow bedrock. The area between Fernwood Circle and Warren Street is characterized by soils in the Montauk, Hollis, and Sudbury series. Generally, they present moderate limitations on residential development due to wetness.

Soils in the Fisher Hill Reservoir area are classified as Newport Urban Land Complex, which also presents moderate challenges to residential development due to slope and wetness. The Bournewood Hospital site is located on Charlton Hollis Urban Land Complex. Development limitations are generally slight except where there are rock outcrops.

B. LANDSCAPE CHARACTER

The combination of bedrock outcrops and glacial features, drumlins rising above relatively flat glacial deposits and extensive remnants wetlands, and small streams, continue to affect Brookline's patterns of development. As Brookline's landscape is largely developed, most of the areas that remain undeveloped are those where natural features have made development difficult.

The hills which were earlier claimed for estates and large homes remain significant, but only a few serve public open space needs. Larz Anderson and Summit Hill are both beloved places to see the sky, watch sunsets and the view the skyline. Larz Anderson is one of the best sledding hills in Town. Skyline Park, completed in 2008, provides public access to a hill with a scenic vista. The Fisher Hill Reservoir has recently transferred in ownership from the State to the Town of Brookline, and will eventually be open to the public as parkland and open space. This area could be landscaped in a way that would give visitors a direct view of the sunset. Public access to the top of those hills that still include open space would be of great value.

The rock outcrops, particularly the Roxbury conglomerate in South Brookline, are unique features of Town. Because they have shaped and somewhat limited development, a number of the public open spaces in this part of Town contain interesting outcrops, including Dane Park, Putterham Woods, Walnut Hills Cemetery, and the D. Blakely Hoar Sanctuary. However, the outcrops on private property are vulnerable to destruction from expansions and other modifications.




At Allandale Farm and on large properties that were once part of larger country estates, small portions of the flat areas and gentle slopes which were not historical wetlands remain as fields or meadows. However, none of these fields or meadows currently are accessible for members of the public who might wish to explore these natural habitats. Some can be viewed from public streets and sidewalks, but even their role as a viewshed are not protected. Preservation of agricultural land and meadow lands would serve the public, particularly if some limited public access could be granted within them.

In North Brookline, there was once a cedar swamp, salt marshes, fresh water wetlands, and streams associated with the Charles River and

TOWN OF BROOKLINE, MASSACHUSETTS

TOPOGRAPHY

Legend

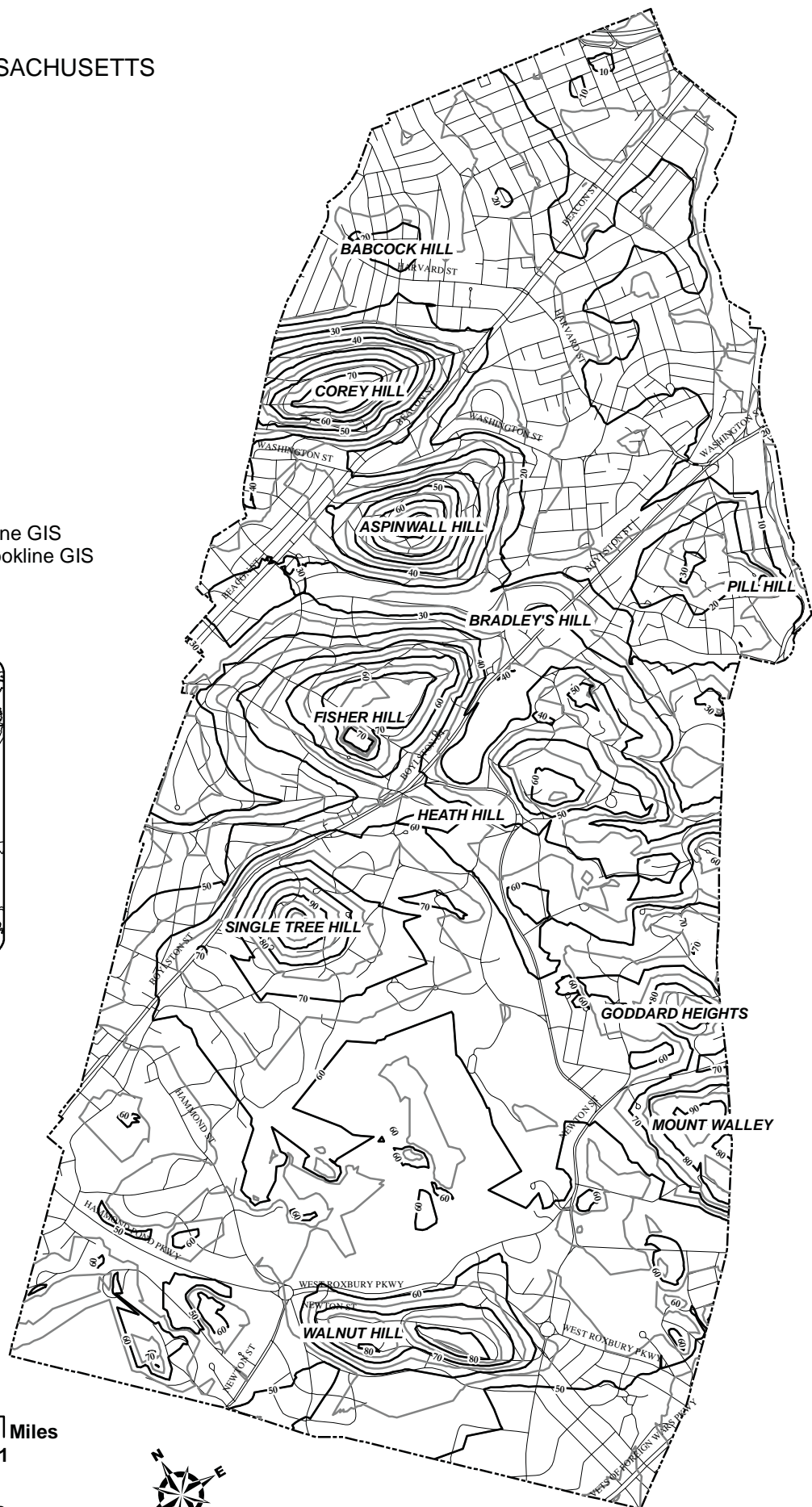
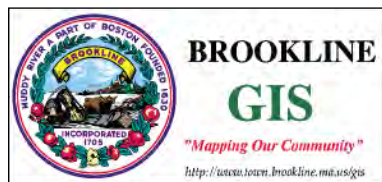
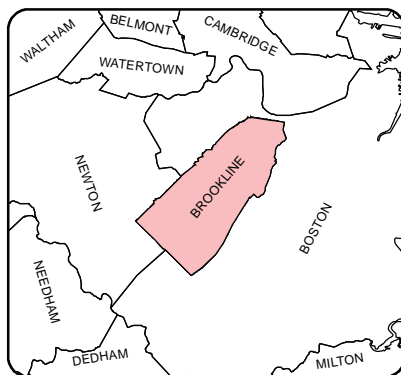
-  Contours (meters)
-  Streets
-  Town Boundary

DATA SOURCES

CONTOURS: MassGIS

TOWN BOUNDARY: Town of Brookline GIS

STREET CENTERLINE: Town of Brookline GIS



0 0.25 0.5 1 Miles



0 0.25 0.5 1 Kilometers






TOWN OF BROOKLINE, MASSACHUSETTS

SURFICIAL GEOLOGY

Legend

-  Town Boundary
-  Street Edge

Surficial Geology

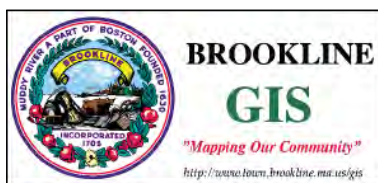
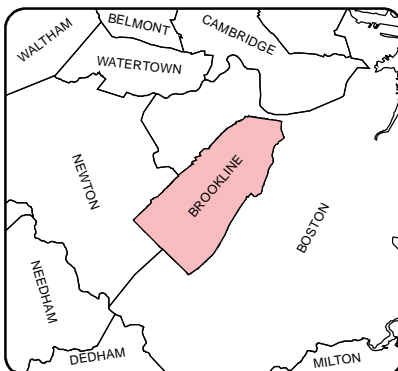
-  Sand and Gravel Deposits
-  Till or Bedrock
-  Floodplain Alluvium

DATA SOURCES

SURFICIAL GEOLOGY: MassGIS

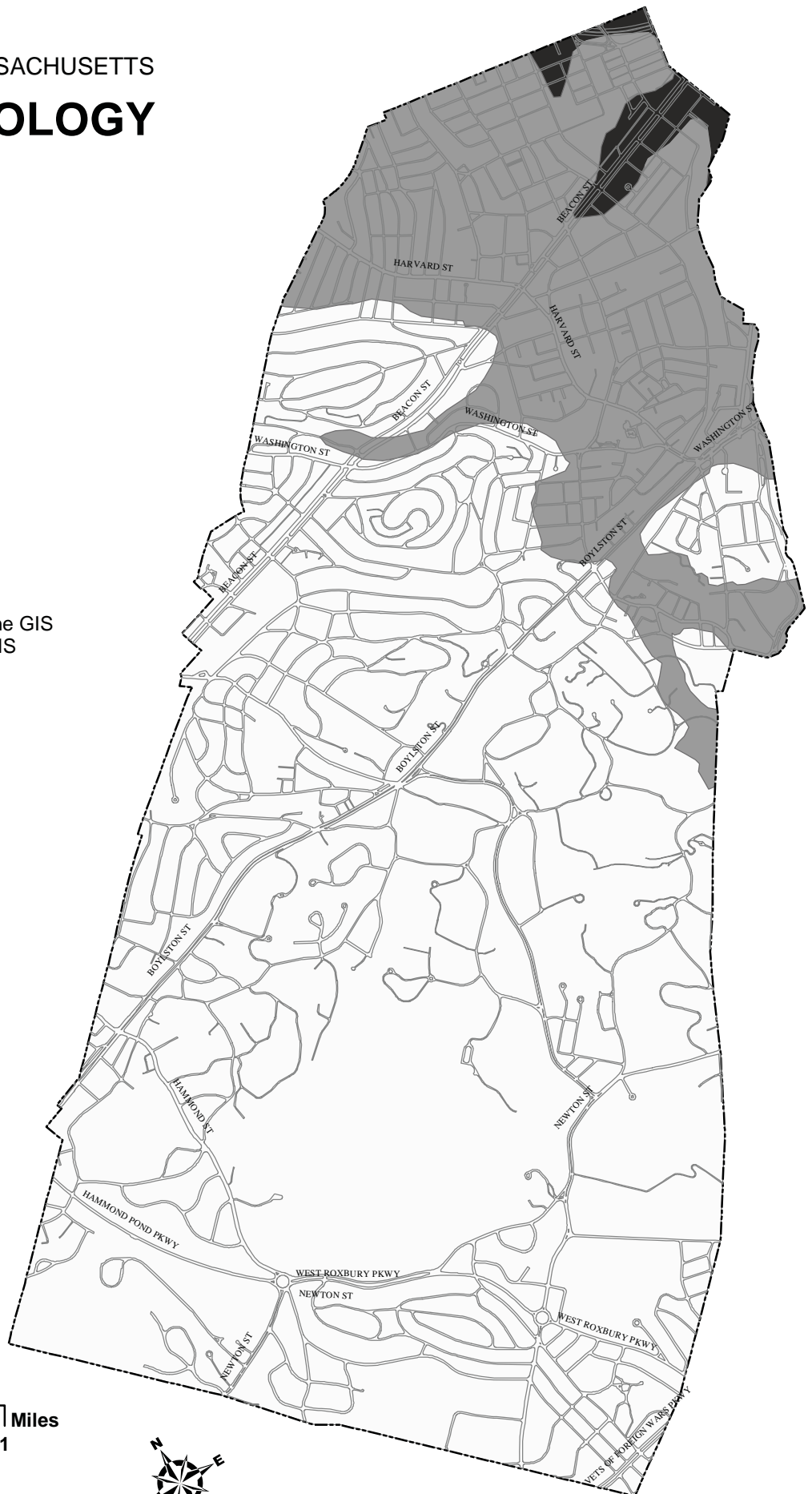
TOWN BOUNDARY: Town of Brookline GIS

STREET EDGE: Town of Brookline GIS



0 0.25 0.5 1 Miles

0 0.25 0.5 1 Kilometers



ENVIRONMENTAL INVENTORY AND ANALYSIS

Muddy River. Today, North Brookline is extensively developed, with Hall's Pond and a number of parks and playgrounds acting as the only natural features. However, many of the parks, including Amory Playground, Griggs Park, Brookline Avenue Playground, and Boylston Street Playground were built on poorly drained or filled land.

In South Brookline, the draining and filling of wetlands, as well as building beside small open sections of streams and wetlands, have caused water problems for residents. Putterham Meadows, once a wetland, was converted to a public golf course, the Robert T. Lynch Golf Course at Putterham Meadows, but still plays a vital role in managing the water. A recent project by the Town, on Golf Course property, included drainage and stream improvements, including removing a stream crossing and retaining walls and restoring portions of the stream bank, with future dredging and stream daylighting planned. Areas such as Button Village and the Baker School District were also built on fill.

Almost all of the Town's landscape is actively maintained. Even the natural parts of the sanctuaries must be maintained for safety and trail access, as well as to control diseases such as the hemlock woolly adelgid. Privately owned and maintained landscapes such as gardens, trees, shrubs and lawns are often considered to be valuable "green" assets to the whole Town. However, these landscaped areas are at risk of development or loss. Infill housing, tear-downs and expansion of existing homes has been accompanied by loss of landscaped grounds in neighborhoods which had not, until recently, been considered to be vulnerable to such changes. Even the creation of larger parking areas and driveways decrease the quality of green space in denser residential neighborhoods. Paving over of lawns, particularly front lawns, may also decrease the aesthetics of neighborhoods and residential streets.

C. WATER RESOURCES

Although the Charles River does not flow through Town, Brookline is located entirely within the Charles River watershed, meaning that all rain and snow that falls within the Town boundaries eventually drains to the Charles River. The watershed area is 308 square miles and consists of 35 communities within its boundaries. Classified as a Class B Warm Water by the State, the Charles River is designated as a habitat for fish, other aquatic life,

and wildlife, as well as suitable for primary contact recreation, such as swimming, fishing, windsurfing, and secondary contact recreation, such as canoeing, boating, kayaking, and sailing. The last nine miles of river, known as the Charles River Basin, is one of the most widely used recreational areas in the country.

Some drainage from North Brookline reaches the Charles River directly. The rest is conveyed indirectly through subwatersheds draining to seven other destinations which ultimately discharge to the Charles River. These include the Muddy River, Stony Brook and Saw Mill Brook. Approximately half of the Town's stormwater drains to the Muddy River. En route to these drainage destinations, some stormwater goes through Hall's Pond, Sargent's Pond, and Lost Pond in Brookline, as well as Jamaica Pond in Boston and Hammond Pond in Newton.

The Muddy River flows 3.5 miles starting at its headwaters or source, Jamaica Pond, a large natural kettle pond located in Boston. It flows north through a series of small ponds, Ward Pond, Willow Pond, and Leverett Pond, and the Back Bay Fens, and ends at the Charles River. The Muddy River drains an area of 5.6 square miles that encompasses parts of Boston, Brookline and Newton.

The Muddy River has two major tributaries; Village Brook and Tannery Brook. Until the creation of the Charles River Dam at the Museum of Science in the early 1900s, large expanses of tidal marsh bordered the Muddy River up to the present day location of Route 9.

From Jamaica Pond to Route 9, a distance of 0.5 miles, the river elevation drops 57 feet, and flow is moderate to rapid. Below Route 9, the river profile is relatively flat. As Brookline developed, stream channels were constructed and eventually put into pipes. Today, all of Tannery Brook and most of Village Brook are buried underground and serve as major stormwater drainage basins. Both Sargent's Pond and Brookline Reservoir in Brookline and Chestnut Hill Reservoir on the boundary of Boston and Brookline contribute flow to the Muddy River via underground pipes.







For many years, human sewage was discharged directly to the streams and rivers. When the population was small and the Muddy and Charles Rivers were still relatively natural, this method of sewage disposal was adequate. However,

Town of Brookline, Massachusetts

WATERSHEDS IN BROOKLINE

Storm Drainage to Ponds, Rivers and Streams

Legend

-  Discharge Points
-  Street Edge
-  Town Boundary
-  Drainage Area
-  Water Body
-  Catchbasins

Drainage Area Description

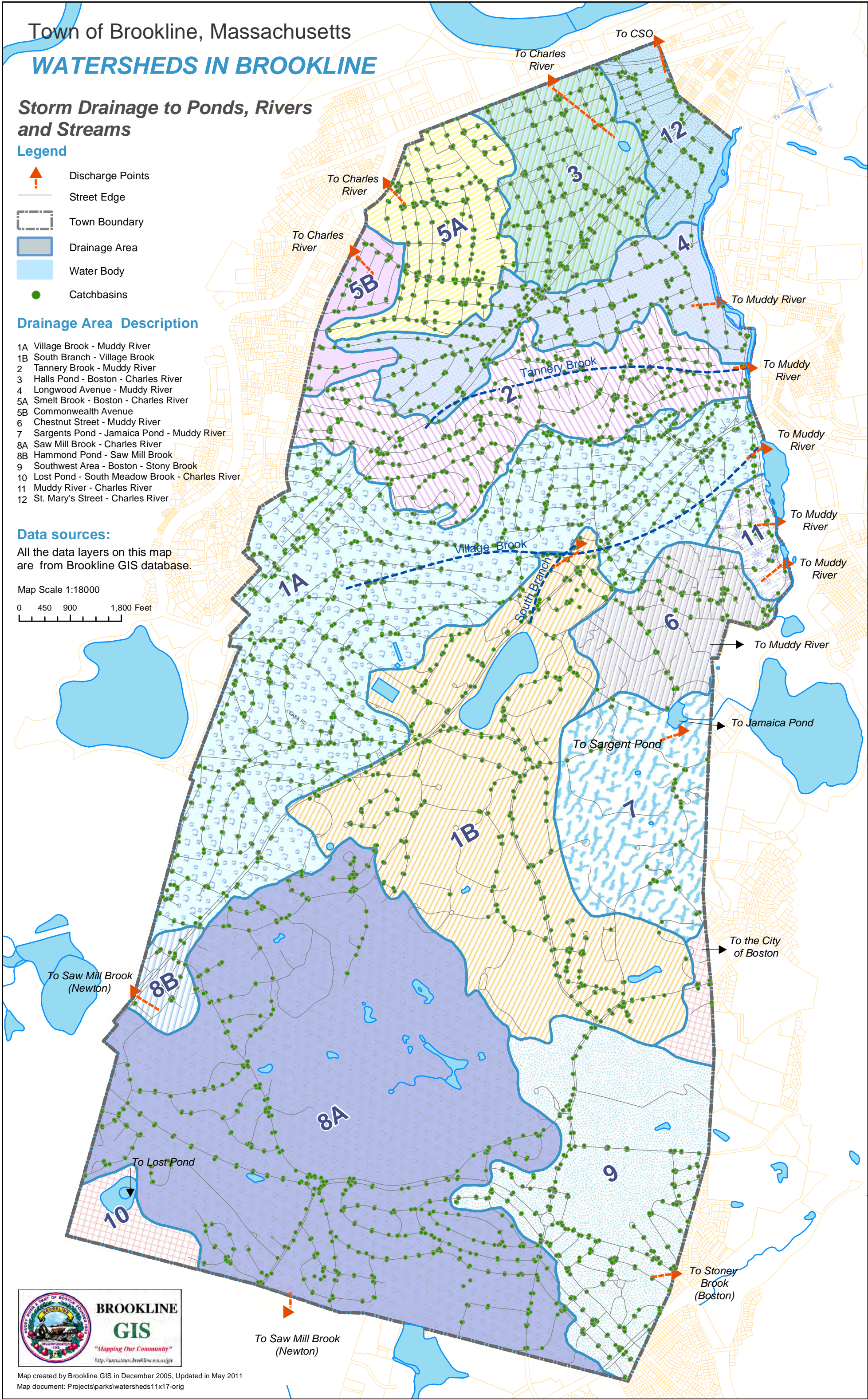
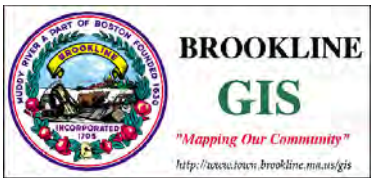
- 1A Village Brook - Muddy River
- 1B South Branch - Village Brook
- 2 Tannery Brook - Muddy River
- 3 Halls Pond - Boston - Charles River
- 4 Longwood Avenue - Muddy River
- 5A Smelt Brook - Boston - Charles River
- 5B Commonwealth Avenue
- 6 Chestnut Street - Muddy River
- 7 Sargents Pond - Jamaica Pond - Muddy River
- 8A Saw Mill Brook - Charles River
- 8B Hammond Pond - Saw Mill Brook
- 9 Southwest Area - Boston - Stony Brook
- 10 Lost Pond - South Meadow Brook - Charles River
- 11 Muddy River - Charles River
- 12 St. Mary's Street - Charles River

Data sources:

All the data layers on this map are from Brookline GIS database.

Map Scale 1:18000

0 450 900 1,800 Feet



as population grew and the hydrology of the Muddy was altered by the construction of mill dams, the river, and particularly the marsh areas, became stagnant cesspools. Faced with these conditions, the decision was made to address them by the introduction of a public sewage system, the creation of a dam at the mouth of the Charles River, filling of the marshes, and creation of Frederick Law Olmsted's Emerald Necklace park system. During the 1880s, the Muddy River was completely reshaped and re-landscaped according to Olmsted's vision. Today, the Muddy River serves Boston and Brookline as a major park, and provides fisheries and wildlife habitat and flood storage capacity. The Emerald Necklace park system includes linear parks and paved pathways on both banks of the Muddy River, starting from the confluence with the Charles River to the headwaters in Jamaica Pond. This provides for both active (fishing, running, biking, ball fields) and passive (bird watching, walking, scenic vistas) recreation along the river's edge. Very little water-related activity takes place within the river because of its relatively narrow width, shallow depths, and restricted access.

Similar to the Charles River, the Muddy River is classified as a Class B Warm Water that is suitable for primary and secondary contact recreation and serves as habitat for fisheries, other aquatic life and wildlife. During dry weather when there has been no or little rain, water quality in the tributary is generally good; meeting State water quality standards for Class B water. However, due to urban runoff, oil spills, and illegal, undocumented sewage discharges, water quality remains poor especially after a rainstorm. The river has lost significant flood carrying capacity due to sediment build-up, primarily from storm-water runoff and streambank erosion.

Watershed Protection Efforts

Numerous ongoing efforts are occurring on federal, state, and local levels to protect and enhance Brookline's water resources, which are vital for flood control, storm damage protection, wildlife and fisheries habitat, and recreational uses. Over the past decade, the Charles River watershed has received considerable attention for the numerous mitigation and restoration projects that surround this body of

Figure 4. Ten Tips for Keeping Our Rivers and Ponds Clean

- 1) Don't trash the water. Litter always goes somewhere - usually into our storm drains, then directly to our rivers and ponds. Do your part, pick up after yourself and participate in local cleanups.
- 2) Pick up your pet's waste. One in five households in this state has a dog. Imagine if all that pet waste was left on the ground to wash into our storm drains and into the waterways where we swim and boat.
- 3) Don't feed geese or other waterfowl and wildlife. Goose fecal matter is a major source of contamination to our rivers, and feeding geese encourages overpopulation of these waterfowl.
- 4) Keep your lawn and garden "green." Overuse of pesticides and fertilizers, and use before rain or watering means that these toxins end up in our waterways, causing damage to the ecosystem and encouraging growth of non-native, invasive plant species.
- 5) Reuse your rainwater. Collect rainwater from your roof with a cistern or rain barrel and then use it to water your garden, which will conserve drinkable water and decrease the polluted water that enters storm drains. Direct your gutter spouts away from paved surfaces to decrease runoff.
- 6) Reduce paved surfaces. When developing or redeveloping your property, minimize the size of your driveway and other non-pervious surfaces. Consider using permeable material such as pavers, gravel, or newer available technologies like porous or permeable asphalt and concrete, instead of traditional pavement.
- 7) Keep oil off the streets. Leaking oil drops onto the street and is eventually rinsed into a storm drain, which discharges to the nearest waterway. Fix oil leaks promptly, and never dump used oil down a storm drain.
- 8) Let the professionals wash your car. If you wash your car at home, all that soapy, dirty water ends up in the storm drain and runoffs to the rivers and ponds. Professional car washes are required to treat and recycle water used, and they use much less water than washing your car at home.
- 9) Get your septic system pumped and inspected regularly. Malfunctioning septic systems can contaminate surface water and groundwater resources or cause backups at the site. To prevent this, have your system inspected regularly.
- 10) Support open space protection. One of the most effective ways to keep our rivers and ponds clean is to allow rain to percolate or infiltrate into the ground instead of running off our streets and other paved surfaces. Plants, trees and soils are natural filters of pollutants so in order to keep our rivers and ponds clean, we must protect open space.

water. The US EPA - New England launched in 1995 the goal of a swimmable and fishable river by Earth Day 2005. A significant player and advocate for the river is the Charles River Watershed Association (CRWA), a non-profit organization established in 1965 to protect, preserve and enhance the health, beauty and accessibility of the river and its tributaries. CRWA's numerous programs in watershed management, water law and policy, water quality, stormwater, parklands, and land use have been instrumental in the cleanup of the river and its tributaries. A cornerstone program of the association is its volunteer water quality monitoring program conducted on a monthly basis at 37 sites along the entire length of the river and two tributaries including one site on the Muddy River.

Efforts to improve water quality, flood capacity and habitat conditions of the Muddy River are also of great importance. The Muddy River is one of the most polluted tributaries to the Charles River discharging at the Esplanade area, which is the most popular recreational area of the Basin. The chain does not end there since the Charles River discharges into Boston Harbor, potentially further impacting the water quality of the Harbor. The Muddy River is a significant historic and cultural landscape serving as the centerpiece of Olmsted's Emerald Necklace Park system and for its proximity to numerous higher education institutions and the Longwood medical area. The MA Executive Office of Environmental Affairs, the cities of Boston and Brookline, businesses, institutions, and environmental organizations, such as the Muddy River Management and Maintenance Oversight Committee, Emerald Necklace Conservancy and Brookline GreenSpace Alliance, are working together to restore and protect the historical and ecological integrity of the Muddy River (see map on pg. 50).

Additional Surface Water Resources

Historical maps of Brookline show nine major stream systems in addition to the Muddy River. The nine streams are Saw Mill Brook, South Meadow Brook, Village Brook, Tannery Brook, Smelt Brook, Stony Brook, Chestnut Street Brook, South Branch of Village Brook, and Swallow Brook. In addition, there is an unnamed stream between Goddard Ave. and Sargent Pond. Most of these streams have been placed in pipes and are no longer visible. Those that are visible have been altered by channelization for agriculture or mosquito control.

Segments of South Meadow Brook, Saw Mill Brook, Village Brook, and the unnamed stream are still open.

Two branches of Saw Mill Brook begin in Brookline and drain southwestward to the Charles River in West Roxbury. The east branch starts in a wooded swamp located in the D. Blakely Hoar Sanctuary and flows through West Roxbury to the river. The west branch originates east of Newton Street near the Newton border, receives drainage from The Country Club and the Robert T. Lynch Golf Course at Putterham Meadows, and flows through Newton and West Roxbury where it meets with the east branch.

Stony Brook, which originates in Boston, flows to the Charles River through West Roxbury. Stormwater drainage from the southeast corner of Brookline contributes to the Stony Brook subbasin. Historical maps indicate that a pond existed in the area presently occupied by Bournewood Hospital.

The drainage from Lost Pond in South Brookline was redirected into South Meadow Brook by an abutter named Frederick Fennard. South Meadow Brook ran through his property so he diverted the drainage from Lost Pond to the Brook in an attempt to draw upland species to the pond. However, Lost Pond did not have the right conditions for upland species since it is a peat bog and the decomposed plant material that covers most of the Pond is very acidic in nature.

Originally, the Charles River subbasin was also composed of Smelt Brook and Cedar Swamp. Smelt Brook was located in the vicinity of Naples Street and formed the northwest boundary of Judge Samuel Sewall's arable land, which he called "Brookline." In order to protect Smelt Brook from dumping and other polluting activities it was channeled into a pipe and is no longer visible above ground but drains to the Charles River. Cedar Swamp, a large wetland where Amory Playground and Hall's Pond are now located, drained directly to the Charles River through a small brook. Today, Hall's Pond and its adjacent wetlands and the Amory Woods wetlands are all that remains of Cedar Swamp. Drainage from Hall's Pond reaches the Charles River via an underground pipe and wet conditions at Amory Playground and flooding continue to remind us of the land's history. The Hall's pond restoration in 2002 and ongoing maintenance efforts have considerably improved the water quality of the water that reaches the Charles River.

Ponds

A 1641 map indicates that there were six ponds and no lakes in Brookline. After the arrival of the colonists, ponds were created for water supply and agriculture. It is not possible to determine which of the six ponds were natural or man-made; today, Lost Pond and Hall's Pond are the only ponds remaining from 1641. Hall's Pond has been reduced in size by filling and Lost Pond is gradually shrinking due to eutrophication, the overgrowth of vegetation, both aquatic and terrestrial, due to high nutrient levels. Sargent's Pond, Larz Anderson Park Lagoon, and the Brookline Reservoir are the major bodies of surface water that have been created. Brookline Reservoir was created in the 1840's by the city of Boston as a drinking water reservoir and was acquired in 1903 by the Town of Brookline. It was taken off-line when the Chestnut Hill Reservoir was established. Today it provides recreational benefits including fishing, walking and running on a gravel pathway encircling the perimeter of the reservoir. Small ponds also exist at The Country Club, the Robert T. Lynch Golf Course at Putterham Meadows, and Allandale Farm. As mentioned previously, Ward Pond, Willow Pond, and Leverett Pond located on the Muddy River are part of the Emerald Necklace park system that is shared with Boston.

Groundwater or Aquifers

Groundwater flows are determined by the shape and the slope of bedrock and by the type of soils overlying the bedrock. Brookline is typical of the region, having soils that are a complex mix of glacial drift deposits. Groundwater is typically found in sand and gravel deposits. In general, groundwater flows tend to follow surface water drainage divides, but where surface water has been diverted, this may not be the case. Groundwater contamination has been identified in some locations, which pose threats to surface waters when it migrates toward ponds and streams, or into storm drains. Groundwater resources were historically important to Brookline as a source of drinking water, known as aquifer recharge areas. These areas provided a high yield of groundwater for the Town's drinking water supply. The Chestnut Hill Reservoir was taken off line in 1978 and the Town is presently served by the Quabbin Reservoir located in central Massachusetts, as well as other outside reservoirs that are members of the Massachusetts Water Resources Authority.

Stormwater

In the natural water cycle, precipitation falls down on Brookline and provides water for trees, plants, fields, lawns and surface waters. A significant portion of that intercepted precipitation evaporates back into the atmosphere; another portion of rain soaks into the soil, which recharges our aquifers or underground water supplies. This groundwater provides a source of water for local wetlands and streams. Water that reaches the surface eventually evaporates and continues the hydrologic cycle. Today, the water cycle has been vastly altered due to population growth and development. Instead of recharging groundwater, a large amount of rain falls on impervious areas, such as rooftops, roads, driveways, parking lots and streets, and flows directly into the stormwater drainage system made up of catch basins and series of connected pipes that discharge into the Muddy River or other tributaries, which eventually reaches the Charles River.

This altered, or "man-made," water cycle creates three significant interrelated problems: reduced infiltration of water into the soils; increased pollution to lakes, ponds, wetlands, and streams; and increased flooding.

1. Reduced infiltration of water into the soil decreases the water supply to plants and trees and groundwater, which minimizes the amount of groundwater available to recharge ponds, lakes, and rivers.
2. Unfiltered by vegetation and soil, stormwater is highly polluted. Water quality sampling of the Muddy River and the Charles River shows that these streams have high pollutant levels of bacteria, oil and grease, metals and sediments after storm events. Rain collects fertilizers, trash, oil and grease, pet and wildlife waste, and other pollutants on paved surfaces and discharges them into the storm drain system, which leads to the Charles River. By the time stormwater runoff reaches its discharge point, it has become the biggest source of pollution to an urban river, lake or stream.
3. High peak flow and high volume of runoff increases the possibility of flooding. Water that used to meander across a bumpy, rutted landscape covered with plants and gullies is now piped, reaching the river quicker and causing an enormous and rapid surge of river flow, increasing the potential for flooding.

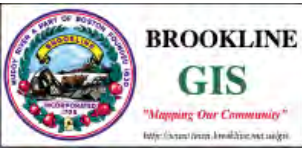
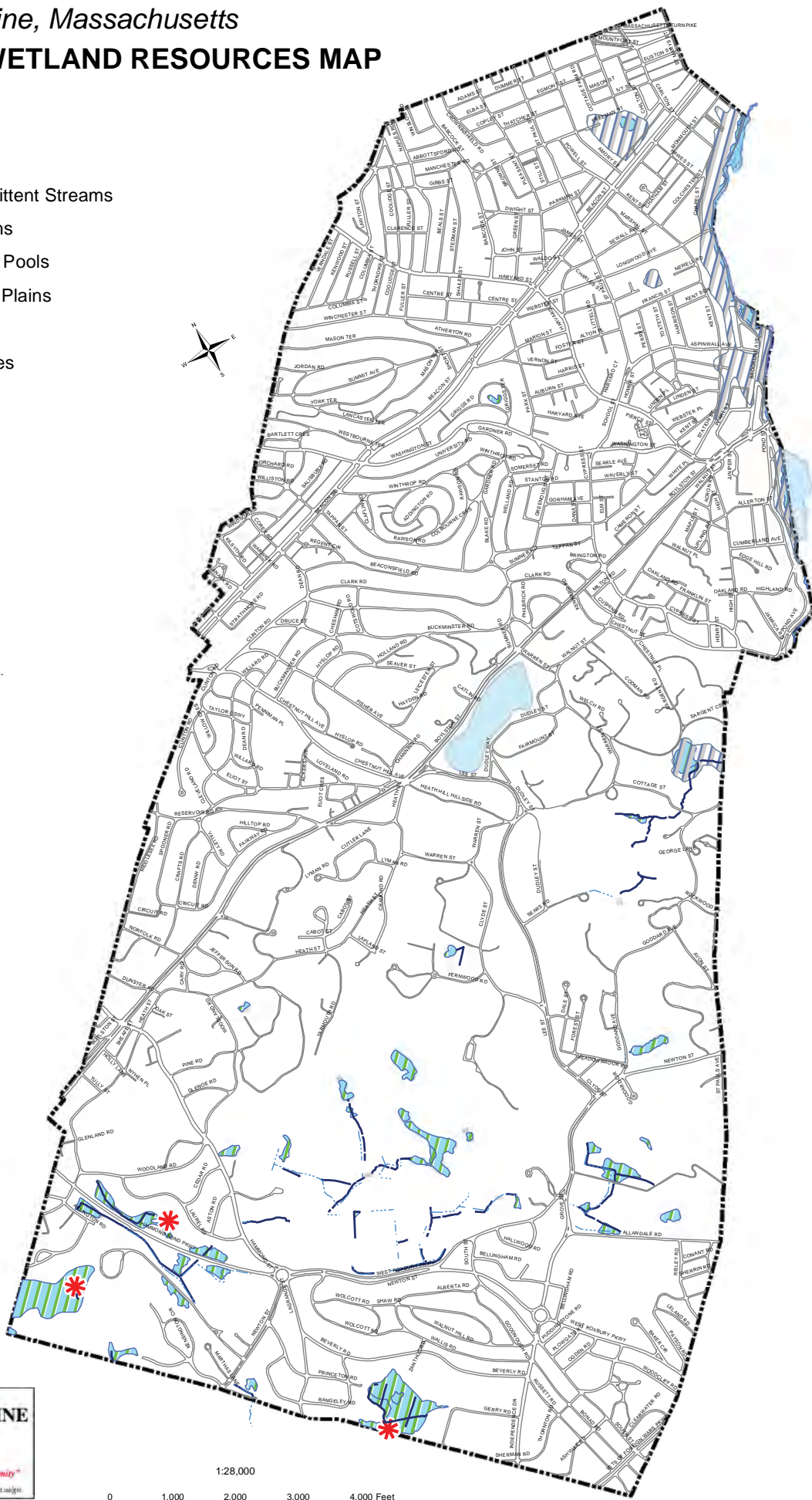
Town of Brookline, Massachusetts

WATER AND WETLAND RESOURCES MAP

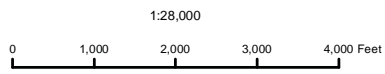
Legend

- Street Edges
- Possible Intermittent Streams
- Perennial Streams
- Certified Vernal Pools
- 100 Year Flood Plains
- Wetlands
- Ponds and Lakes
- Named Rivers
- Town Boundary

DISCLAIMER:
Data shown on this map is from Brookline GIS and Brookline Engineering Department.
The Town of Brookline makes no claims, no representations, and no warranties, express or implied, concerning the validity (express or implied), the reliability or the accuracy of the GIS data and GIS data products furnished by the Town, including the implied validity of any uses of such data.



Map Created by Brookline GIS in December 2005, Updated in May 2011
Map Doc: Projects/Parks/Wetland/wetlandsbylaw-rcbu11x17.mxd



Flood Hazard Areas

Flood hazard areas or floodplains are low-lying lands bordering streams, lakes and ponds and other isolated low lying areas into which high water spills during and after storm events. For flood insurance and regulatory purposes, the boundary of floodplains is defined as the elevation of flooding resulting from the 100-year storm. This 100-year statistical storm assumes that seven inches of rain will fall within 24 hours. The probability of such a storm occurring in any given year is one percent, or once every year. In reality, a 100-year storm event could happen more often, even more than once a year and has happened three times in the past fifteen years: in October 1996, June 1998, and March 2010.

The major floodplain in Brookline is located along the Muddy River from Ward Pond to Park Drive and Brookline Avenue. The nearby Longwood Medical Area in Boston and Brookline businesses and residents situated in or near the Muddy River floodplain have been greatly impacted by flooding. The damage costs from the storms in the late 1990s was over ten million dollars. In addition, areas around Sargent's Pond, Longwood Playground, the Robert T. Lynch Golf Course at Putterham Meadows, and Hall's Pond are mapped as 100-year floodplains. Because of the location of densely developed commercial and residential areas in the floodplain, the potential for property damage is significant.

Brookline participates in the Federal Emergency Management Agency's (FEMA) National Flood Insurance Program which is comprised of three components: flood insurance, floodplain management, and flood hazard mapping. Flood insurance is provided at a subsidized rate to homeowners, businesses, and renters in Brookline to cover disaster damage costs. In exchange, the Town has adopted and enforced floodplain management ordinances to reduce flood damage. In addition, the program identifies and maps the areas prone to flooding. There are numerous flood hazard zone designations. Zone A is the flood insurance rate zone that corresponds to the 100-year floodplains that are determined in the Flood Insurance Study by approximate methods. Because detailed hydraulic analyses are not performed for such areas, no Base Flood Elevations or depths are shown within this zone. Mandatory flood insurance purchase requirements apply.

Wetlands

At the time of European arrival, wetlands, which include swamps, marshes, and wet meadows, were prevalent and large expanses of marsh existed along the Muddy River. The name of Cedar Swamp in the Cottage Farm areas implies that it was an Atlantic White Cedar Swamp, which is today a rare ecosystem in Massachusetts. Putterham Meadows was also an extensive area of marsh and swamp. Many parks such as the Emerald Necklace Park System, Griggs Park, Longwood Playground, and Amory Playground were constructed on former wetlands. Since most development in Brookline preceded the enactment of statutes to protect wetlands, large areas of these important resources were filled. Today, the major vegetated wetland systems are located at Hall's Pond, Lost Pond, D. Blakely Hoar Sanctuary, Allandale Farm, Sargent's Pond, off Dale Street, along the Hammond Pond Parkway, and at the Robert T. Lynch Golf Course at Putterham Meadows. While these areas have been significantly reduced, wetlands continue to provide important functions including flood control, storm damage prevention, pollution attenuation, and wildlife habitat. The Brookline Conservation Commission, comprised of appointed Town residents, is responsible for protecting, preserving, and preventing further loss of these important resources.

D. VEGETATION

In much of Brookline, the most obvious vegetation is grass, shade trees, ornamental shrubs, foundation plantings, and flowering plants. However, there are discrete areas of naturalized forest, wetlands, meadows and fields. No rare, endangered or threatened plant species have been identified.

Forest Land

Brookline's publicly accessible open space includes five forested areas which have naturalized vegetation and are managed minimally: Hall's Pond Sanctuary, which includes Amory Woods; D. Blakely Hoar Sanctuary; Lost Pond Sanctuary; Dane Park, and Putterham Woods. They range from 5 acres in the combined Hall's Pond and Amory Woods Sanctuary to over 59 acres in the combined Lost Pond Sanctuary, managed by the Town, and the adjacent State-owned Lost Pond Reservation.

The mature trees in all but Putterham Woods are primarily deciduous, and of mixed age and spe-

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cies, with pockets of conifers. Each of these areas includes large old trees, which probably predated the designation of that area as a park or conservation land.

Oaks and maples are present in all five areas. Other hardwoods common to these forested areas include cherries, birch, beech, and hickory. White pine and hemlock are the most common conifers. Understory trees and shrubs are mostly deciduous, and include a range of native and non-native woody plants typical of this part of Massachusetts as well as non-native species, which have naturalized. Blueberry, green briar, poison ivy, clethra, and witch hazel are among the common native woody plants. Non-native invasive woody plants found in our forested lands include *Ailanthus* (tree of heaven), Norway maple, buckthorn, Japanese honeysuckle, oriental bittersweet vine and multiflora rose.

Since these plants have grown on land that has been formerly managed for different purposes, and because they are separated by urban and suburban sections of Town, certain species common in one area are practically absent in another. At Hall's Pond Sanctuary, white willow, weeping willow, silver maple, and white ash surround the pond. Sassafras trees grow at Dane Park. Large yellow birch trees predominate one section of Lost Pond.

In addition to the publicly accessible wooded areas, there are pockets of woodland, and naturalized vegetation on private properties, including those protected by conservation restrictions. Private estates and institutions have grand specimens of native and non-native trees as well as forested lands that may be of considerable importance to wildlife habitat and biodiversity within the Town's borders. However, information about many of these is unavailable.

The site of the old Fisher Hill Reservoir, recently transferred in ownership from the State to the Town of Brookline, includes scrubby wooded sections along its edges, with much bittersweet, crabapple, and sumac. There is also a community of aspen, sphagnum, reeds, and *Phragmites australis* (common reed), a non-native invasive plant species, on the basin of the old reservoir. The area is currently used as wildlife habitat by foxes, rabbits, and other mammals, migrating and local birds, dragonflies and invertebrates. The Town plans to convert the reservoir into a multi-use park, which will include some wildlife habitat and passive, wooded areas.

Small herbaceous plants and wildflowers in these naturalized forest areas include many non-native species, particularly along the boundaries of private homes, yet there are many native wildflow-

Figure 5
The Value of Urban Trees

Conserve Energy

The USDA Forest Service found that trees properly placed around a building can reduce air conditioning needs by 30 percent and can save 20-50 percent in energy used for heating.

Mitigate Air Pollution

Trees filter particulates, extract automobile pollutants such as carbon monoxide and sulfur dioxide and return oxygen to the air.

Reduce Noise

Trees absorb and deflect noise generated by urban residents and act as a visual screen, providing privacy.

Improve Water Quality

Research conducted by the USDA Forest Service has found that the planting of trees means improved water quality, resulting in less runoff and erosion. This allows more recharging of the ground water supply. Wooded areas help prevent the transport of sediment and chemicals into streams.

Increase Property Value

The presence of trees alone raises the value of residential property. According to the USDA Forest Service healthy, mature trees increase a property's value by an average of 10 percent.

Moderate Climate

According to the U.S. Department of Agriculture one acre of forest absorbs six tons of carbon dioxide and puts out four tons of oxygen. This is enough to meet the annual needs of 18 people.

Create Wildlife Habitat

Trees provide food, nesting sites, and shelter for urban wildlife. The presence of wildlife contributes an unquantifiable value to the quality of life in urban areas.

Improve Quality of Life

"In laboratory research, visual exposure to settings with trees has produced significant recovery from stress within five minutes, as indicated by changes in blood pressure and muscle tension." Dr. Roger S. Ulrich, Texas A&M University

ers that have survived. Canada mayflower, white starflower and false Solomon's seal are among the most common in the sanctuaries.

Skunk cabbage flourishes at the D. Blakely Hoar Sanctuary in the wetland areas. Such plants are not found in Brookline's more formally maintained parks and recreational open spaces.

The preliminary vegetation assessment and management recommendations prepared by Urban Forestry Solutions in 2002 for the Parks and Open Space Division describes the overall health of these forests as good, apart from the Eastern hemlocks which have been suffering from infestations of hemlock woolly adelgids, an aphid-like insect pest. The Town has since taken measures to protect the hemlocks from further damage due to the woolly adelgid, by treating the infested trees with targeted applications of dormant oil, in accordance with proper pest management practices. The Town's forests constitute self-sustaining and natural-looking forests, although this report warns that the possibility of changes effected by human activity make all of these forested spaces potentially vulnerable to rapid changes.

Following the infestation of winter moth in the spring of 2004 and 2005, the Town's tree crews have continued to target affected trees with spinosad, the active ingredient in the specialty insecticide Conserve®, in accordance with proper pest management practices. These efforts have slowed the negative effects of this defoliating caterpillar, which has the capacity, if untreated, to cause severe damage to the health of Brookline's trees.

In July 2010, the Asian longhorned beetle (ALB) was discovered near the Boston/Brookline boundary. The potential presence of this non-native invasive insect in Brookline is a significant concern, since the ALB grows and reproduces within a wide range of deciduous hardwood tree species, affects both healthy and stressed trees, and eventually kills the trees. The U.S. Department of Agriculture, Department of Conservation and Recreation, City of Boston, and Town of Brookline are working together to address this threat, including surveying and inspecting trees in a regulated area around the site where infested trees were found. As of the end of 2010, the ALB had not been found in Brookline.

Recently, the Parks and Open Space Division has been working on an Urban Forest Master Plan to guide management efforts going forward.

Street Trees and Shade Trees of the Urban Forest

Street trees and the trees in public parks and open spaces, constitute a significant portion of Brookline's vegetation. The Town of Brookline currently has approximately 11,044 street trees and each year the Parks and Open Space Division plants approximately 200 new trees along streets and in parks.

The Town began tracking the number of street trees back in 1994, when a group of about 100 citizens volunteered to complete an inventory of all the Town's street trees. This inventory found that many areas of the Town did not have a sufficient number of street trees. This finding prompted the Tree Planting Committee, which directs the planting and maintenance of all of the Town's street trees, to start the Back-of-Sidewalk tree planting program. Since the creation of this program, the Town has expanded the diversity of street trees and planted trees where few existed before. Increasing the diversity of Brookline's street trees reduces the risk of blight, such as Dutch Elm disease, and provides a more varied look to the street. Species that have been planted include Japanese maple, magnolia, sweetgum, weeping cherry and Korean Mountain ash.

In 2009, the Parks and Open Space Division performed a complete update of all the street trees in its inventory, consisting of over 11,000 trees, and including information on tree species, size, condition and health, and management needs. The analysis of over health and condition of the trees showed that there were 83% Good, 14% Fair, 3% Poor, and <1% Dead. Species distribution was also found to be reasonably high, with the most common trees including, in order, Norway maple, red oak, linden, sycamore, honeylocust, red maple, pin oak, ash and elm, with over 40 additional species represented. The street tree inventory is an excellent management tool and continues to be used and updated on a regular basis to ensure that all of the information remains accurate.

Street trees are also susceptible to non-native invasive insects pests and pathogens. As with trees in Brookline's public forest land, affected street trees are regularly treated for winter moth. Street trees are also being surveyed for the Asian longhorned beetle (ALB), in the regulated area around the site where in infested trees were found in Boston.

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The Urban Forest Master Plan will also include assessment and management recommendations for Brookline's street trees and shade trees.

Agricultural Land, Fields and Meadows

Allendale Farm, located in both Boston and Brookline, is the last remaining working farm in the area, with both farmed and fallow fields. Open field and meadow habitat does occur elsewhere in Brookline, but is in almost all cases vulnerable to change and development. These include the formerly State-owned Fisher Hill Reservoir, which, under the Town's proposals for a park, will be excavated and re-landscaped. Currently, grasses and wildflowers grow there, such as goldenrod, Queen Anne's lace, and milkweed, providing habitat for songbirds, small mammals, and diverse insects, including fireflies, which generally do not re-populate an area which has been altered, and monarch butterflies.

Previously, an old-field habitat sloped down to Lost Pond from the old transfer station, and provided habitat for woodcocks and tree swallows, as well as for deer and wild turkeys, small mammals and diverse invertebrates. Although the field was disrupted by the capping of the landfill, regrading and new fill has created a sloping, new hill that is filling in with grasses. As succession progresses, this area may eventually include flowers, shrubs and other meadow and field plants, that will again provide wildlife habitat.

Wetland Vegetation

All of the publicly owned forested parks and sanctuaries include wetlands, as does Putterham Meadows. Lost Pond includes the remnant of a bog as well as a pond, stream, and wooded wetlands. The bog vegetation includes Atlantic white cedar, black spruce, sphagnum moss, and button bush. Water willow, a native plant, has been encroaching from the edges of the pond where the remnants of the bog are located, and non-native *Phragmites* border the pond near the landfill. A range of native plants, including cattail and buttonbush, provide habitat along the pond edges for spring peepers, wood frogs, spotted salamanders, ducks, and resident and migrating songbirds.

The South Meadow Brook emerges from a culvert in the Lost Pond Sanctuary. Much of the vegetation near its outlet is non-native, including garlic mustard and bittersweet. Increasingly large stands

of Japanese knotweed, a non-native invasive, grow beside Hammond Pond Parkway.

The red-maple swamp at the D. Blakely Hoar Sanctuary has classic vegetation for this ecosystem – studded with alder, skunk cabbage, and jack-in-the-pulpit and edged in high bush blueberries, sweet pepper bush and witch hazel.

The restoration of Hall's Pond introduced native aquatic vegetation to the section of wooded wetland and the wetland beside the outfall. These plant communities were intensively maintained until they were well-established, and are now flourishing. Pickerel weed, arrowhead, duck-weed are present. Although purple loosestrife has appeared, it is being removed as it appears. The Friends of Hall's Pond continues to hold volunteer clean-ups twice a year. A Hall's Pond Sanctuary Work Plan, developed collaboratively and approved by the Conservation Commission in 2010, ensures that vegetation removals, plantings, and other work and management activities are consistent with well-defined goals for the different sections of the sanctuary.

Dane Park includes a seasonal wetland, where dumping was once extensive, few native aquatics grew, and non-native flowers and groundcovers were prevalent. The Town removed much of the dumped matter in the past, and completed significant renovations to the park in 2010, including removal of non-native invasives and new native plantings. A new handicap accessible loop trail and a boardwalk to an overlook at a wet meadow, provide opportunities for visitors to view and appreciate the wetland and other vegetation.

Unfortunately, the dominant vegetation surrounding the Muddy River is non-native and is pushing out the native vegetation. Today the primary vegetation in the Muddy River area consists of common reed, *Phragmites*, which is choking the river with its deep roots and stalks, contributing to the flooding problem, and decreasing the habitat value for most wildlife.

Sites with Unique Natural Resources

Brookline's wetlands include certified vernal pools at the D. Blakely Hoar Sanctuary, Lost Pond, and adjacent to Hammond Pond Parkway, with sightings of spotted salamanders in other parts of Town. The certified vernal pool in D. Blakely Hoar Sanctuary is adjacent to a raised berm, with extensive wetlands extending into the sanctuary on the

opposite side as well. The vegetation on the Boston side of the berm is typical of a relatively urban red-maple swamp. Skunk cabbage, poison ivy, and catbriar are common. Biodiversity is limited in the herbaceous and understory layers. To those who do not understand or value wetlands, there is nothing to distinguish this spot. Spotted salamander egg masses in this certified vernal pool are usually attached to fallen tree branches, as there are few plants or woody vegetation within the pool itself, which eggs would normally attach to.

The parking lot of a large apartment complex in Boston is close to the border of the sanctuary; dumpsters and automobiles are parked right up to the vegetated edges, which show signs of dumping. People create access to the sanctuary by creating bridges and stepping stones of scrap lumber, fallen trees, and miscellaneous objects. The vernal pool, the upland habitat where the spotted salamanders spend most of their lives, and the areas they travel in the spring to get to and from the vernal pool are threatened by such uses, as well as by the new and larger houses and yards in Brookline that also border that part of the sanctuary.

Lost Pond and the surrounding wetlands have been certified as a vernal pool. Much of the surrounding upland habitat has been undisturbed and may sustain spotted salamanders. It is unclear if the renovations at Skyline Park and the landfill changed conditions for these amphibians, though a large area surrounding the pond remains largely undisturbed. Wood frogs and spring peepers still can be heard calling from Lost Pond in the spring.

Most recently, a vernal pool was certified east of Hammond Pond Parkway, approximately 2500 feet south of Route 9, in land owned by the State Department of Conservation and Recreation (DCR). Spotted salamander spermatophores and egg masses were documented, and breeding spring peepers were heard calling.

E. FISHERIES AND WILDLIFE

Wildlife

In spite of the urbanization of Brookline, there is a surprising diversity of wildlife. Birds, especially those in migration, benefit from proximity to water, relatively large tracts of undeveloped property, and the diversity of habitats, especially Brookline's rich collection of trees. Hall's Pond, Lost Pond, Walnut

Hills Cemetery, the Emerald Necklace parks along the Muddy River, and Skyline Park are among the favored birding spots in Brookline. The restoration of Hall's Pond in 2002 has increased nesting by Baltimore Orioles and Warbling Vireos, and visitation by herons, cormorants and grackles.

Owls, including Eastern Screech-Owls and Great Horned Owls, regularly nest throughout the Town, and Barred Owls are regular winter visitors. Indeed Brookline has one of the most dense populations of Eastern Screech-Owls in the Greater Boston area, with local hotspots including Fisher Hill, Heath School grounds, Putterham Woods, Larz Andersen Park, Skyline Park and Hall's Pond.

Certain bird species have adapted to the urban setting by taking advantage of specific urban habitats. For example, the Common Nighthawk, which is typically a ground-nesting bird, has in the urbanized northeast U.S. come to specialize in nesting on gravel rooftops, which provide a similar nesting substrate and protection from predators. Unfortunately, these birds are declining significantly throughout the Massachusetts and the rest of the Northeast, likely due at least in part to the demise of the tar and gravel method of roofing. Notably, Brookline is one of the very few places in Massachusetts that still hosts a population of nesting nighthawks. On summer nights, listen for their distinctive "peent" calls and the unique "boom" sound they make with their wings when displaying near a nest site. And look for their erratic flight and periodic dramatic swoops as they hunt insects around dusk. They're prevalent all along Beacon Street, from Washington Square through Coolidge Corner and St. Mary's, and can often be seen in the lights at Fenway Park. Another species of note is the American Kestrel, which is decreasing throughout the Northeast, perhaps as a result of lost farmland, but has taken to nesting in the eaves of buildings, making urban areas near open space – like Brookline – one of the kestrel's few remaining strongholds.

Birds commonly seen in Brookline throughout the year include native and non-native birds common to urban and suburban areas throughout the Northeast such as goldfinches, robins, cardinals, mockingbirds, crows, Red-tailed Hawks, chickadees, nuthatches, Downy Woodpeckers, Northern Flickers, Canada Geese, Mallards, starlings, pigeons, House Sparrows and Herring and Ring-billed Gulls, and the increasing Cooper's Hawk, Tufted Titmouse, Carolina Wren and Red-bellied Woodpecker. Song Sparrows, Gray Catbirds,

ENVIRONMENTAL INVENTORY AND ANALYSIS

Baltimore Orioles, Warbling Vireos, Yellow Warblers and, in smaller numbers, Rose-breasted Grosbeaks and Wood Thrushes breed in suitable habitats such as Hall's Pond, Lost Pond and D. Blakely Hoar Sanctuaries, greatly supplementing the spring and summer chorus. Other warblers, thrushes, vireos, sparrows and both Ruby-crowned and Golden-crowned Kinglets lend color during spring and fall migration, and the latter two sometimes make it through the winter. Dark-eyed Juncos, White-throated and American Tree Sparrows are popular at feeders and other suitable locations even in the dead of winter.

Several flocks of Wild Turkeys have taken up residence and are increasing in numbers. They are especially prevalent near the Longwood Mall, Tappan Street and Larz Andersen Park, and some are even so bold as to walk along Beacon Street. Majestic herons such as Great Blue, Green and Black-crowned Night Herons are commonly seen near water. Migration and winter brings to open water such as Hall's Pond, the Brookline Reservoir and the Muddy River, ducks such as Hooded and Common Mergansers, Buffleheads, Green-winged Teal and Black Ducks, plus coots and Pied-billed Grebes. Migration and winter is also when the local raptor populations of Red-tailed and Cooper's Hawk and American Kestrel are supplemented by Ospreys, Sharp-shinned Hawks, Merlins and even – rarely – Bald Eagles. Look for eagles whenever large groups of Canada Geese get in a tizzy.

The local feral Canada Geese population has been increasing significantly in recent years leading to some human-wildlife conflicts and potential conflicts and competition within goose populations. These geese are non-migratory, "resident" geese, and the Parks and Open Space Division has implemented an integrated goose control program to address the increasing population and to minimize goose issues in Brookline's parks and open spaces.

Mammals in Brookline include a variety of animals typically found in urban areas, such as Eastern gray squirrels, Virginia opossums, raccoons, striped skunks, mice and rats. Eastern chipmunks have become extremely common, even in the more urban sections of town. Eastern coyotes are common in Town and their population appears to be increasing, based on an increase in reported sightings across the Town. Coyotes have adapted to the urban and suburban environments, though they are typically shy. Red fox can be seen in various parts of Town and are sometimes mistaken for coyotes,

though they are smaller mammals. White-tailed deer have become established at Lost Pond, and in South Brookline, but have also appeared at the High School and at Hall's Pond and in many other sections of Town.

Rabbits can be seen in various parts of Town, and may include Eastern cottontails and New England cottontails, though the latter are in decline in Massachusetts due to habitat destruction and displacement by the adaptable Eastern cottontail. Voles, shrews, moles, and muskrats are present, though often overlooked. Woodchucks and porcupines are also likely to be present.

Fishers, large dark brown carnivorous mammals in the weasel family, are present in Town, though sightings are not common, since these animals are solitary and elusive. In recent years, fishers have been seen in the Fisher Hill area and between North and South Brookline.

Bats, particularly Little Brown Bats and Big Brown Bats, used to be common, but have declined precipitously due to White Nose Syndrome (WNS), a fungus that infects the bats and is mostly fatal. Scientists still know very little about WNS, but the disease has been spreading in recent years throughout New England and across the eastern United States and into Canada.

Amphibians and reptiles are not common in town, but can be observed. Garter snakes appear at Lost Pond, Dane Park, Hall's Pond, and other spots around town. Other species of snakes are likely to be found in Brookline as well. Painted turtles and snapping turtles can be found at Hall's Pond, Lost Pond, and D. Blakely Hoar Sanctuaries and Leverett Pond. Spotted turtles have been reported at Leverett Pond. These turtles were previously listed by the state's Natural Heritage and Endangered Species Program as a species of "Special Concern", but have recently been delisted.

Eastern red-backed salamanders are found in all the sanctuaries, and in many private properties. Spotted salamanders have been found at Lost Pond and D. Blakely Hoar Sanctuaries and in culverts near Dane Park and the Robert T. Lynch Golf Course at Putterham Meadows. Eastern newts are likely in Brookline as well. Wood frogs, spring peepers, and toads call from Lost Pond. Green frogs, American bullfrogs, and other toads and frogs can be found, but are not common.

Invertebrates include a wide variety that are commonly found in urban areas, such as spiders and many different insects, plus many invertebrates that are simply overlooked. Fireflies are seen in the wetlands, but are almost non-existent elsewhere in town. Eastern tiger swallowtails can be found, but are not common; monarchs pass through the town, but in decreasing numbers. Mourning cloak butterflies appear in the wooded sanctuaries after their winter hibernation. Dragonflies and damselflies are common in Brookline's wetlands, but are not often seen elsewhere in Town as they previously were. Within the Town's water bodies are diverse populations of aquatic invertebrates, and within the Town's soils are diverse populations of insects, worms and other invertebrates.

Vernal Pools

Brookline's wetlands include certified vernal pools at the D. Blakely Hoar Sanctuary, the Lost Pond Sanctuary, and most recently adjacent to Hammond Pond Parkway, with sightings of spotted salamanders in other sections of the D. Blakely Hoar Sanctuary and in other parts of town. Wood frogs have been heard at D. Blakely Hoar Sanctuary, but it is not clear whether there are wood frogs in other areas. Fairy shrimp may be in these vernal pools as well, and facultative species of invertebrates have been seen.

Spotted salamanders have been observed over the years at Lost Pond. The pond and the ring of wetlands surrounding it have been certified as a vernal pool. Salamander egg masses and salamander spermatophores have been documented within the pond itself. The sounds of wood frogs have been reported in this area as well.

A vernal pool was certified within the wetlands on the east side of Hammond Pond Parkway in January 2011, based on the presence of yellow-spotted salamanders, which were previously known to breed in these wetlands, but had not been documented.

Spotted salamanders have been reported in the wetland around the DPW facility and Dane Park, but egg masses have not been documented at this point.

Mating choruses of wood frogs and possible sightings of spotted salamanders have been reported in temporary pools within larger wetlands on private property at the end of Dale Street. Other

vernal pools may exist in Brookline on private properties.

Fisheries

The most recent fish community sampling conducted in 2002 in the Muddy River and Ward, Willow and Leverett Ponds show that numerous fish species live in these waterbodies, including bluegill, largemouth bass, American eel, common carp, goldfish, pumpkin seed, yellow perch, golden shiner, and pickerel (CRWA, 2003). While the fish population is up from previous decades and fish kills no longer occur because of removal of point source discharges of pollutants and other improvements to water quality, these fish species also illustrate that conditions in the waterbodies are still degraded; poor water quality as a result of stormwater runoff and illegal discharge of sewage to storm drains, low flows especially in the dry summer months, and erosion and sedimentation of their habitat. Classified as macrohabitat generalists, they can live in a wide range of habitats including lakes, streams, and ponds, do not require free-flowing water for any part of their life cycle and are the most pollutant tolerant and adaptable of the three fish classes. The two other classes of fish, which require free-flowing water for either all or part of their life cycle and are less pollutant tolerant, were not collected in the river or ponds.

Several fish studies conducted before the 2002 sampling effort had similar results with presence of common carp, golden shiner, pumpkinseed, and goldfish (Jones, 1996, and Maietta, 1990). However, fish were not found in the mid-1980s during a Harvard University study of the Riverway section of the Muddy River (Hartel, 1996).

In 1995, river herring, an anadromous fish species, were observed in Leverett Pond for the first time in many years (Bolduc, 1995), but has not been observed since. Anadromous fish species spend most of their lives in salt water, however, they swim to freshwaters, such as the Muddy and Charles River, to spawn and lay their eggs. Juvenile fish species spend about a year in the freshwater before swimming out to sea. Unfortunately the success rate of juvenile herring production is fairly low in the pond because of lack of suitable rearing habitat and poor water quality.

Due to contamination of the Muddy River from PCBs and mercury, the State Department of Public Health has issued several public health advisories

ENVIRONMENTAL INVENTORY AND ANALYSIS

warning that children younger than 12 years of age, pregnant women, women of childbearing age who may become pregnant and nursing mothers should not consume any fish. In addition the general public should not consume brown bullhead, common carp and American eel caught in the river and consumption of non-affected fish from the river should be limited to two meals per month.

The Brookline Reservoir is stocked annually with trout by the State Division of Fisheries and Wildlife. State fishing licenses are required to fish in the Reservoir.

Vegetated Corridors Suitable for Wildlife

Because there are many small open spaces connected by street trees and private gardens and plantings, the view of Brookline from an airplane reveals ribbons of green that appear almost continuous. These vegetated corridors, plus networks of wet areas and streams, serve as functional wildlife corridors for birds, flying insects, and mammals that have learned how to travel and survive in a territory that includes a patchwork of suitable habitat surrounded by extensive developed areas.

Larger areas with wildlife habitat that are contiguous or close to other areas with significant wildlife habitat are more valuable than isolated plots. Significant wildlife corridors include the Lost Pond Conservation Area, the DCR's Lost Pond Reservation and Hammond Pond Parkway and the City of Newton's Kennard Conservation Area and Park. Adjacent to Hoar Sanctuary are Leatherbee Woods and Hancock Woods, both preserved natural areas. The cemeteries on the border of Newton and West Roxbury and Kessler Woods in Newton conservation land add to the wildlife value of these lands.

The Emerald Necklace includes both Brookline and Boston. There are still possibilities for wildlife to move between Brookline, Jamaica Pond, the Arnold Arboretum, Franklin Park, and Forest Hills Cemetery.

There is some likelihood that deer, at least one moose, and other animals, such as coyotes and turkeys, have moved into Brookline by walking along the tracks of the D Line on MBTA's Green line, which pass through Hammond Pond Conservation Area in Newton.

Large holdings under private and institutional ownership remain as significant corridors for wildlife

movement, but have no protection as wildlife corridors. To be most effective, wildlife corridors should be part of large, contiguous properties. A narrow "greenway" that is protected for the pleasure of pedestrians and bicyclists is generally less effective in preserving native plant species and the animals that depend upon them. In large, untended open spaces, there is the potential for survival of valuable native plants that add to habitat value. However, when these areas are too far apart, opportunities for cross-pollination or vegetative reproduction are decreased. Less common native plants may decline, even if there is not a threat from human activities or from more adaptable or invasive plants.

Rare, Threatened or Endangered Species

The state Natural Heritage and Endangered Species Program has recognized the threespine stickleback (*Gasterosteus aculeatus*) as a threatened species found in the Babbling Brook area of Brookline. Brookline is also home to yellow spotted salamanders. Although these amphibians are not rare, their habitat is limited. It is possible that other rare or endangered amphibians or other organisms may be found in Brookline, though none have been documented at this point.

F. SCENIC RESOURCES AND UNIQUE ENVIRONMENTS

Unique Environments

Among Brookline's notable features are the attractiveness and vitality of the major commercial areas. For example, Coolidge Corner, Brookline Village, and Washington Square are valued as uniquely pleasant and accessible. They are adjacent to desirable residential neighborhoods and are walkable, accessible to bicyclists, and served by public transportation. Businesses include local services and unique stores, and meet diverse needs. Stores front the sidewalk and are generally small. The strong sentiment in Town to preserve the character of commercial areas contributes to the support for "green features" – such as street trees, flowers, small sitting areas, and amenities for pedestrians and bicyclists.

For many residents of Brookline, the unique landscape character of the Town could be described as "neighborhood character." Many of the diverse residential sections of Town share similar housing, have streets that seem to belong together, or are

unified by a local commercial area, a neighborhood school, a park or common meeting areas.

While some of these neighborhoods have commonly-used names or are named according to their local elementary school, park, or historic district, others are less clearly defined. Yet, residents have a sense of where their neighborhood is and what its character is and do not want their own neighborhood to lose its special features or become homogenized by change.

The variation across neighborhoods is exceptional. There are neighborhoods where large multi-family housing and an active street life are preferred, neighborhoods where small single-family houses are crowded together close to the sidewalk, others where they are placed suburban-style in the middle of a lawn with a prominent driveway. Other neighborhoods are comprised of older, expansive homes on large properties with landscaped and naturalized areas, some of which still remain from Brookline's estates.

The greenery in general and the street trees in particular are a highly significant and valued part of Brookline's landscape. The urban forest is subject to urban stresses, as well as invasive pests and stresses from climate change. In order to maintain our urban forest, consistent and sufficient levels of funding are needed.

Much of the sense of open space in Brookline's residential neighborhoods is tied to individual homes and the configuration of private yards, gardens, and street trees. These small areas are almost impossible to protect unless private owners and neighborhood associations understand the value of such spaces and owners take it upon themselves to maintain their properties with a concern for environmental benefits for themselves and their neighbors.

Parks, schoolyards, and other open spaces add to the landscape character of Town. Preservation of parks as neighborhood meeting places is one way to maintain the character of surrounding neighborhoods. However, proposals to change or upgrade parks for more specialized recreational uses or to attract more Town-wide use are often perceived as a threat to neighborhood character.

The largest, privately-owned properties with relatively undisturbed land in Brookline might include significant habitat and surviving populations of native plants and animals that have been extirpated

in the rest of Brookline. Without conservation restrictions on such properties, or acquisition by the Town or an environmental organization, there is little or no permanent protection for the habitat or the wildlife.

Open spaces with unique and scenic features in Brookline include our sanctuaries, parks, and publicly-accessible open spaces. Larz Anderson Park, Corey Hill Park, Skyline Park and, potentially, the park to be developed on the site of the Fisher Hill Reservoir all provide an expansive view of the sky and the skyline. Broad and scenic views, including views of the sky are also features of some of our larger parks and playing fields.

The Brookline Reservoir is unique in Town, with its attractive body of water and views of sky and skyline, its track for walking or running, and the surrounding park with significant trees and many benches. It is also particularly valuable as a place where seniors and others walk or visit together.

Dane Park's restoration highlights its geology, but this is the only geology trail in Town. Brookline holds many dramatic outcrops of Roxbury Conglomerate, known as "Puddingstone". Examples include outcrops in the Hoar Sanctuary, Hancock Village, and along Goddard Avenue. Except in sanctuaries, there is little protection of these geological features, and homeowners can potentially blast and remove rock formations if desired.

Open space in Brookline that interconnects with other open spaces, including that in other towns, is significant. The Riverway and the Emerald Necklace are nearly contiguous open spaces that give visitors many options. The complex of land including the Lost Pond Conservation Area, The Department of Conservation and Recreation's Lost Pond Reservation, Hammond Pond Parkway and the City of Newton's Kennard Conservation Area and Park, have been tied together better and made more accessible to the public by the creation of Brookline's new Skyline Park. The Hoar Sanctuary is adjacent to Boston's Leatherbee Woods and Hancock Woods. Unfortunately, access to these areas is difficult, except by car, and parking is extremely limited.

Because of Brookline's small size and diverse open spaces, it is important to improve access and promote the use of corridors between them, for example through greenways. Well-landscaped walking routes can have similar effects to parks and

ENVIRONMENTAL INVENTORY AND ANALYSIS

other open spaces, on health and well-being. Parks and conservation areas can serve as destination points or waysides along bicycle routes.

Historic Resources

Brookline has five local historic districts, as well as, sixteen National/State Register Districts and over 80 individual properties listed as Historic Places. Since 2000, 3 new historic districts have been added to this list: 1) Graffam - McKay 2) Chestnut Hill North and 3) Harvard Avenue local historic district.

The sixteen National/State Register Districts include: Olmsted Park/Emerald Necklace, Pill Hill/High Street Hill, Longwood, Cottage Farm, Brookline Village Commercial District, Town Green, Beacon Street, Beaconsfield Terraces, Chestnut Hill, Cypress Street/Emerson Garden, Graffam- McKay Development, Green Hill, Larz Anderson Park, Fisher Hill, Strathmore Road, and White Place. Sections of the Cochituate Aqueduct Linear District, Hammond Pond Parkway and West Roxbury Parkway have also been listed in the National Registrar of Historic Places.

The Emerald Necklace, on the border of Brookline and Boston, is one of Frederick Law Olmsted's notable designs. It is a significant landscape not only for its historic value, but also for its values to users and to wildlife. The Emerald Necklace also plays a significant role in stormwater management and flood control.

Other historic landscapes include the Walnut Hills Cemetery, and The Old Burying Ground, Linden Park and Linden Square, Emerson Garden, Town Green, Longwood Mall, Mason Square, Larz Anderson Park, Reservoir Park, Amory Woods, Hall's Pond, Fisher Hill Reservoir and Holyhood Cemetery.

The Paths of Brookline

Brookline's pathway system, primarily staircases linking the hills adjacent to Beacon and Washington Streets, is a valuable resource not only for pedestrian access but also as small corridors of open space. They should continue to be maintained and kept safe. They could also be enhanced by removing weedy species of trees and shrubs and replacing them with more indigenous plants that are more attractive. These paths are well described in the excellent walking guide by Linda Olson Pehlke's

book "Exploring the paths of Brookline." Each of the paths described in the book are located within the Brookline system and have been declared eligible (except Lawton) for the State and National Register.

Table 4
Brookline's Walking Paths

- 1) Addington Path
- 2) Beaconsfield Path
- 3) Carlton Path
- 4) Claflin Path
- 5) Clinton Path
- 6) Colbourne Path
- 7) Davis Path
- 8) Gardner Path (Oldest - established 2/8/86)
- 9) Lawton Path (Newest - established 4/13/72)
- 10) Marion Path
- 11) Mason Path
- 12) Rawson Path
- 13) Summit Path
- 14) University Path
- 15) Walnut Path
- 16) Winchester Path
- 17) Winthrop Path

Public Education for Visiting Open Spaces




A guidebook for walking among the parks and open spaces has also been proposed for North Brookline; it could be used in combination with Linda Olson Pehlke's, "Exploring the Paths of Brookline." The Chestnut Hill Garden Club's booklet, "Chestnut Trails: Nature Walks in Chestnut Hill," was published in 2001 and is still widely appreciated.

An Emerald Necklace Parks Map and Guide, the first complete map of the entire Emerald Necklace, was developed by the Emerald Necklace Conservancy and other park stewards including Boston Parks and Recreation, Brookline Parks and Open Space, Massachusetts Department of Conservation and Recreation, and Friends of the Public Garden, as well as other relevant organizations. The map and guide was first published in English in 2009 and later in Spanish, and has been extremely popular.

The Parks and Open Space Division has brochures with trail maps for each of the three nature sanctuaries. The Division also has an interactive park finder map on its website with links to park descriptions, at www.brooklinema.gov/Parks.

PUBLIC PATHS

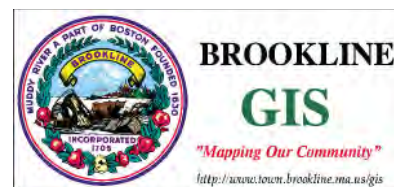
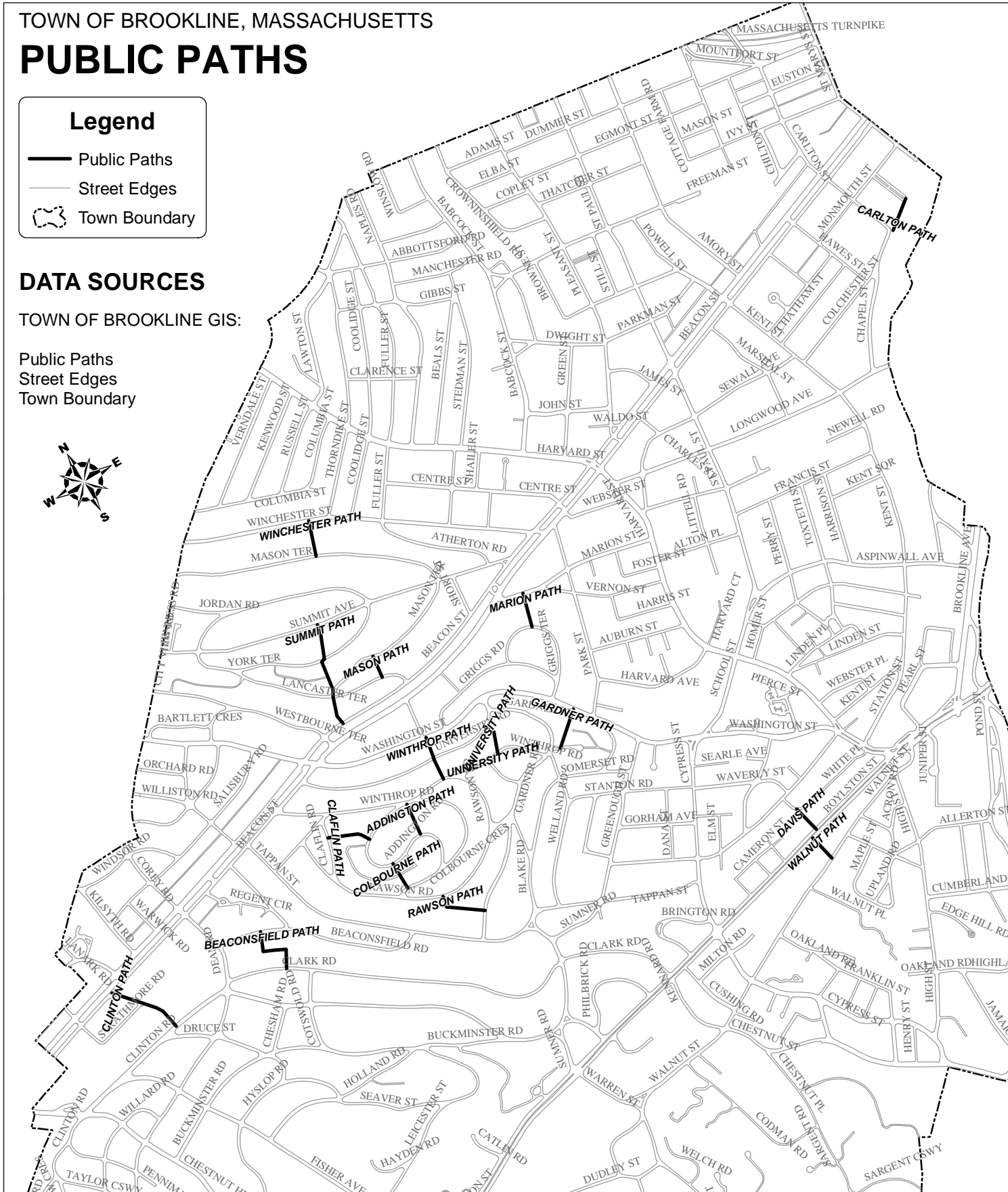
Legend

-  Public Paths
-  Street Edges
-  Town Boundary

DATA SOURCES

TOWN OF BROOKLINE GIS:

Public Paths
Street Edges
Town Boundary



Town of Brookline, Massachusetts

HISTORIC SITES AND DISTRICTS



Legend

- Town Boundary
- Water Body
- Major Roads
- National Historic Landmarks
- State/National Registers of Historic Sites
- State/National Registers of Historic Districts

Local Historic Districts

- Chestnut Hill North
- Cottage Farm
- Graffam-McKay
- Harvard Ave
- Pill Hill

Reference # National District Name

- | | |
|----|---------------------------------------|
| 1 | Cottage Farm |
| 2 | Graffam Development |
| 3 | Longwood |
| 4 | Beaconsfield Terrace |
| 5 | Fisher Hill |
| 6 | Strathmore Road |
| 7 | White Place |
| 8 | Cypress Street/Emerson Garden |
| 9 | Chestnut Hill |
| 10 | Pill Hill |
| 11 | Green Hill |
| 12 | Larz Anderson Park |
| 13 | Brookline Village Commercial District |
| 14 | Beacon Street |
| 15 | Town green |
| 16 | Olmsted Park |

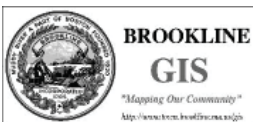
Data sources

State and National Register listed Historic Properties, National Historic Landmarks, and Local Historic Districts: Developed by Brookline GIS based on information provided by Brookline Historic Preservation Commission. Updated on 9/28/2005

Streets, Railroads, Streams, Rivers, Ponds: Boston Edison Company and Brookline GIS Staff
Open Space: Brookline GIS Staff.
Town Boundary: Boston Edison Company. Updated by Camp Dresser and McKee, Inc. and it is based upon Brookline Assessor's map sheets.

Map Disclaimer

The information shown on this map is from the Brookline Geographic Information System (GIS) Database. The Town of Brookline can not guarantee the accuracy of the information. Users are responsible for determining its suitability for their intended purpose.

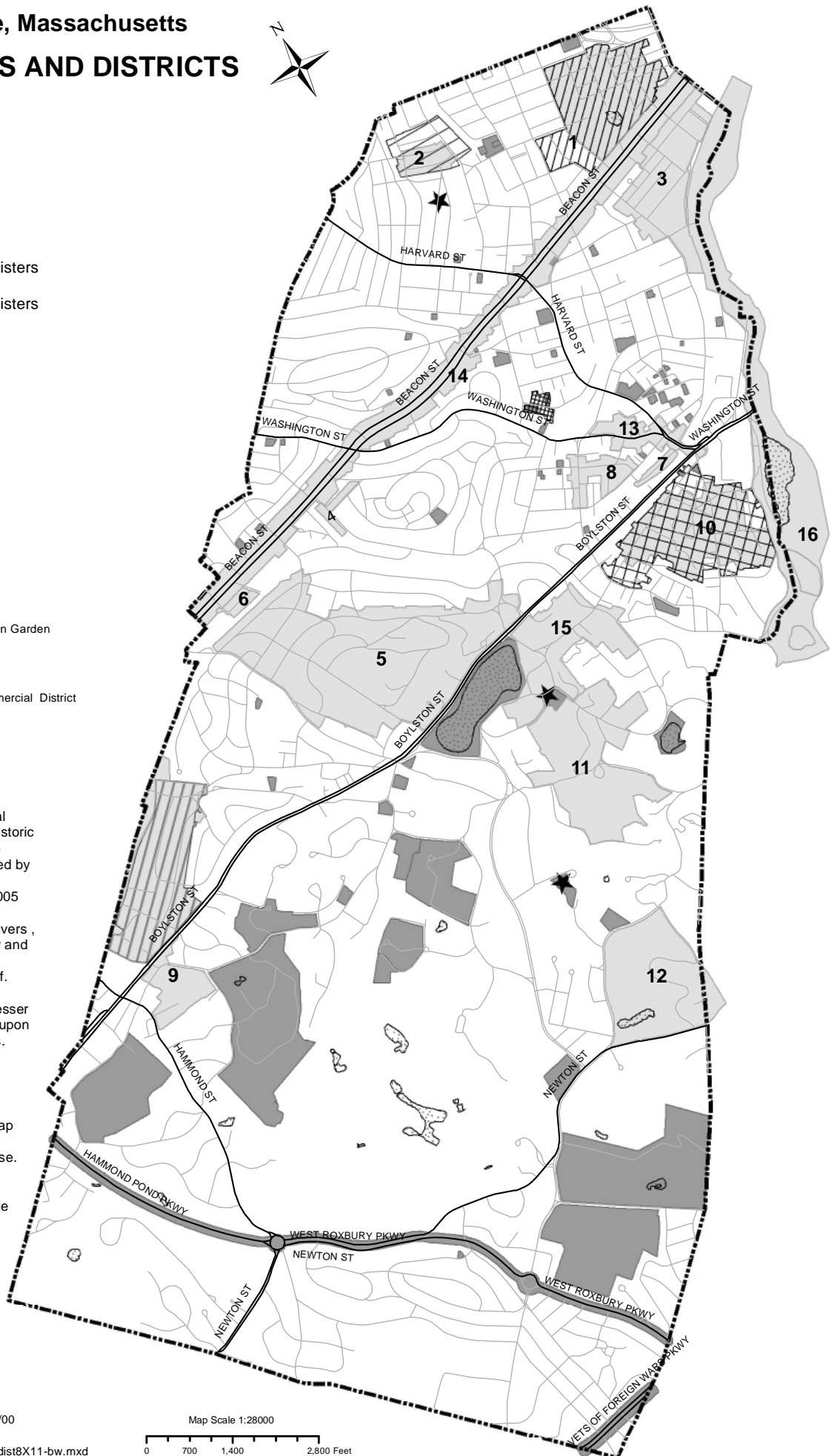


Map created by Brookline GIS on 3/13/00 and modified on 04/05/2011

Map doc: projects\Standard-Maps\histdist8X11-bw.mxd

Map Scale 1:28000

0 700 1,400 2,800 Feet



G. ENVIRONMENTAL CHALLENGES

Hazardous Waste and Brownfield Sites

In accordance with the Department of Environmental Protection's definition of brownfields being abandoned, leased or for sale parcels that are used for commercial or industrial purposes and/or contaminated sites, Brookline currently does not have any brownfield sites.

Landfills

Since the last Open Space Plan, the Town has capped the front landfill at 815 Newton Street, and moved the Department of Public Works operations to the back landfill. Extensive improvements, including a new active recreation field and community park, have been completed. In addition, the Town's Engineering Division worked with outside consultants to conduct environmental remediation on the adjacent properties, including removing significant amounts of ash, and re-landscaping large areas with new plantings. The back landfill still presents an environmental challenge for the Town of Brookline, and debris from the old landfill can still be found scattered and buried in parts of the Lost Pond Sanctuary. The full landfill closure plan, includes plans to clean up these areas.

Erosion

Changes to our landscape for the purposes of development leads to the removal of trees, ground-cover, shrubs and other vegetation, exposing the underlying soils to erosion. Erosion is the detachment of land surface material by rainfall impact and its subsequent removal by overland flow, or less significantly by wind impacts. In Brookline, the areas with the highest level of erosion are construction sites on previously undeveloped lands, especially those located on steep grades. Eroded soil is then transported by overland flow or stormwater runoff to the Town's surface water and wetland resources either directly or via catchbasins and stormwater pipes that eventually discharge to these waters. The eroded soil then builds up in the resource areas leading to sedimentation or build up of sediment in these areas.

Eroded soils are a significant source of pollution and degradation to our waters and wetlands. They carry other pollutants with them, smother and degrade benthic aquatic habitats and decrease the hydrologic or flood carrying capacity of the water-

body. The Erosion and Sedimentation Control By-Law passed by Town Meeting in June of 2004 provides a regulatory framework to control erosion on these sites.

Erosion can also occur along the water's edge of our streams, lakes and ponds. The lack of vegetation and stable soils along the banks of these waters and large, intense rainfall expose and removes the soil. Sections of the Muddy River banks are heavily eroded.

Flooding

Flooding has long been a problem along the Muddy River, Hall's Pond, and Griggs Park. These areas were historically larger wetlands that were heavily developed before the function and value of wetlands was properly understood and safeguarded. With increasing regularity, moderate rains necessitate emergency response measures to address storm water overflow. These events inspired a multi-jurisdictional park and public works project to restore the Muddy River's civil engineering structure, flood handling capacity, historic integrity and ecological vitality. The Town of Brookline, the City of Boston and various State environmental agencies, have undertaken this collective initiative to rehabilitate the Emerald Necklace parklands and restore the Muddy River system.

The Phase One Muddy River Flood Control, water Quality and Habitat Enhancement, and Historic Resources Preservation Project has begun with the Army Corp of Engineers underway in their design of this significant project (see map on pg. 50). Phase I of the Muddy River Restoration Project addresses flood control, water quality and wildlife enhancement, and historic landscape rehabilitation. The project saw increased activity in 2009 as the Army Corps Engineers moved the project forward and completed Phase I design. The first significant portion of the construction is expected to commence late in 2011.

The Conservation Commission monitors and regulates development within the 100-year floodplain to minimize property damage, and the Town participates in the Federal Flood Insurance Program.

Sedimentation

The impacts of sedimentation can be most readily seen at Leverett Pond, where the Village Brook outfall discharges at its eastern end. The

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Village Brook outfall carries stormwater drainage from both Brookline and Newton. About 100 feet from the outfall, there is a large sediment island or bar, which serves as a habitat for Canadian Geese and sea gulls and in the summertime has purple loosestrife. Pond depths between the outfall and the sediment bar are about one to two feet.

Geese have been observed in increasing numbers walking in this section of the pond. Leverett Pond will be dredged as a component of the Phase One Muddy River Flood Control, water Quality and Habitat Enhancement, and Historic Resources Preservation Project.

New Development Impacts

The US Environmental Protection Agency and the State Department of Environmental Protection have created and implemented a municipal stormwater discharge permitting system to manage stormwater runoff and minimize the impacts of erosion from construction sites. Subsequently, the Town has developed and adopted a Stormwater Control By-Law that includes provisions for construction site management and the adoption of erosion and sediment control practices. These regulatory efforts have reduced much of the movement of soils to our water and wetland resources.

Ground and Surface Water Pollution

All local surface waters suffer some degree of degradation through urban runoff, old sewer systems, combined sewer overflows (CSOs) and illegal dumping, which continue to introduce excessive nutrients, sediment, bacteria, and chemical pollutants, and low flows especially during the summer months, which exacerbate pollutant levels in the waters. These ongoing problems result in the accelerated growth of algae and aquatic plants, the spread of invasive, exotic plant species, the loss of wildlife habitat, offensive odors, and poor water quality.

Muddy River System

Historically, water quality in the Muddy River and its ponds has been poor. Yet over the past fifteen years, the health of the Muddy River and its ponds has been slowly improving because of concerted efforts by federal, state, and local government agencies to remove illicit connections from storm drain pipes, repair the stormwater drainage system, reduce sources of pollution and educate

the public about the impacts of stormwater runoff. When Olmsted proposed the Emerald Necklace parks, a major goal was to improve the sanitary conditions of the river, particularly the segment that was tidal at that time. Water quality monitoring by the Town and CRWA have shown that the river is safe for boating and has low levels of fecal coliform bacteria during periods of dry weather, however, high levels of fecal coliform bacteria, nitrogen and phosphorus (nutrients), and suspended sediment occur during and after a storm event when pollutants that have collected on paved surfaces are collected by stormwater and runoff to storm drains and catch basins. In addition, high bacteria levels can be attributed to the numerous illicit connections to the Town's storm sewer system and old faulty, failing infrastructures of the system. River bottom sediment quality is also very poor. Elevated levels of lead, mercury, petroleum hydrocarbons and polycyclic aromatic hydrocarbons have been measured in the sediment.

Also contributing to the degradation of water quality is the spread of *Phragmites*, a tall invasive exotic reed plant, which has also caused the loss of wildlife habitat and disrupted views of the Olmsted-designed park. Required by the federal Clean Water Act, the State has designated the Muddy River as an impaired or threatened water body for one or more uses and requires the development of total maximum daily loads (TMDLs) for the pollutants of concern. A total maximum daily load is the maximum allowable concentration of a pollutant that can be introduced into a waterbody and still ensure attainment of water quality standards and support designated uses. The river is impaired or threatened by the following pollutants: priority organics, metals, nutrients, siltation, organic enrichment/low dissolved oxygen, pathogens, oil and grease, taste, odor and color, and other habitat alterations.

Saw Mill Brook

The Charles River Watershed Association monitors the water quality of Saw Mill Brook for elevated bacteria levels that exceeded the State's boating standard during a slightly wet weather period and has found high levels, as well as high suspended solid levels, and low dissolved oxygen levels. The sources of wet weather contamination to the brook are unknown, however, possible sources could include waterfowl feces, pet waste and/or illicit connections. During the last five-year cycle watershed assessment of the Charles River watershed, the State also measured elevated levels of bacteria and

suspended sediment in Saw Mill Brook. Saw Mill Brook has been listed by the State as an impaired or threatened water for one or more uses and requires total maximum daily loads to guide clean up efforts in the subbasin. The pollutants of concern include other inorganics, organic enrichment/low dissolved oxygen, pathogens, taste, odor and color, noxious aquatic plants and other habitat alterations.

Hall's Pond

Prior to the restoration of Hall's Pond the pond was gradually filling and had poor water clarity due to the discharge of stormwater runoff directly to the pond. The Town designed the Hall's Pond Restoration Project, which was completed in 2002, to enhance and restore water quality and vegetation within and around Hall's Pond Sanctuary. Although the primary goal of the project was wetland restoration, a secondary benefit was improved stormwater management and better public access. The new stormwater diversion system reroutes stormwater flows, particularly the first flush, away from the pond. This by-pass system reduces the amount of sediment and contaminants accumulating within the pond, thereby improving the water quality. The new diversion system also enhances stormwater quality discharge to the Charles River.

Lost Pond

In 2003, the water quality and aquatic vegetation and wildlife communities of Lost Pond were assessed. Results of the surveys showed slightly elevated levels of bacteria and high levels of phosphorus, which were three to four times higher than the desired maximum concentration at four different locations in the pond. High nutrient levels in the small pond have resulted in eutrophication and the overgrowth of native (water willow) and exotic (purple loosestrife and *Phragmites*) invasive aquatic vegetation. Lost Pond will continue to be closely monitored during the ongoing landfill closure process to ensure there is no adverse impact to this wetland resource.

Willow Pond

Oil pollution in Willow Pond has been a continuing problem. Efforts are being made to locate and abate the source of the problem. An oil/water separator has been installed by the DPW in the storm drainage system upstream of the pond. In 1999, the site of the former Soule School and Highway Garage on Kendall Street was sold to a private

developer. The Town made arrangements with the developer and the Massachusetts Department of Environmental protection to install a groundwater remediation treatment technology. The Town has since sealed the drain line which crosses the site and installed an oil/water separator within the drain line down stream from the site. The Town will continue with the remediation of Willow Pond, which is scheduled for remediation with the overall Muddy River restoration project.

Impaired Water Bodies

The Muddy River is arguably the most impaired water body in Brookline; the proposed dredging of the Muddy River should help free the river system by deepening the river, upgrading flood control, removing invasive and exotic vegetation, improving fisheries/wildlife habitat and water quality. The restoration of the Muddy River will enhance recreational use of the Emerald Necklace Parklands. The restoration will also include improvements to the infrastructure that will involve repairing gatehouse controls, removing system-wide constrictions, replacing undersized culverts, and eliminating combined sewer overflows (CSOs). In addition, replanting natural vegetation is planned to enhance the environmental quality of the Muddy River system.

Invasive Species

As noted in earlier sections, non-native invasive species continue to be a challenge for the Town of Brookline, as for all municipalities. Several invasives are known to be in Brookline already, and require careful management, including identification, appropriate removal, and appropriate restoration. For herbaceous plants, this includes species such as Japanese knotweed, garlic mustard, black swallow-wort, glossy buckthorn, and *Phragmites*, among many others. For woody plants and trees, this includes Tree of Heaven, and Norway maples, which the Town no longer plants. For insects and forestry pests, this includes winter moth and hemlock woolly adelgid.

Several invasives are known threats that are not currently present in Brookline, but warrant careful observation and planning to ensure they do not establish in Brookline, or can be treated quickly if found. For plants, this includes species such as mile-a-minute vine and kudzu, among others. For insects and forestry pests, this includes species such as the Asian longhorned beetle and the emerald ash borer, both of which attack trees. In addition

to management strategies, the Town needs to continue to educate the community, so non-native invasives can be identified and controlled on both public and private land.

[illegible]

Source: CDM

"We want a ground to which people may easily go after their day's work is done, and where they may stroll for an hour, seeing, hearing, and feeling nothing of the bustle and jar of the streets, where they shall, in effect, find the city put far from them ... Practically, what we want most is simple, broad, open space of clean greensward, with sufficient play of surface and a sufficient number of trees about it ..."

Frederick Law Olmsted, Landscape Architect & Emerald Necklace planner/designer

SECTION 5

INVENTORY OF LANDS OF CONSERVATION AND RECREATION INTEREST

Introduction to the Open Space System

Brookline's open space system is a complex of publicly and privately-owned land ranging from intensely managed landscapes to minimally managed woodlands and wetlands. The following inventory of open space parcels includes both lands that are legally protected for open space uses, and some of the lands which do not have legal protection, but are significant open space parcels.

Types of open spaces in Town include both publicly and privately-owned land. Publicly-owned land includes conservation areas, parks, playgrounds, recreation facilities, cemeteries, school yards, public works facilities and traffic circles. Many of these are legally protected as open spaces, but others are unprotected and could be used for different public purposes, such as additions to schools or Town buildings.

Privately-owned lands that have open space values include agricultural and recreational land, institutional lands, and private estates of significant size. While the open space on some of these private properties is protected, most is not.

Vacant parcels, green frontage and streetscapes can have special significance to a neighborhood or to the Town as a whole, particularly when they are contiguous to other areas which have open space value in this densely populated urban setting. However, these are not listed in this inventory.

Taking into account all public open space, legally protected or not, as well as significant private open spaces, Brookline has approximately 1,375 acres of open space. This represents ~31 percent of the Town's land base. However, only ~634 acres, just over 14 percent of the Town's land base, is legally protected as open space. Over 600 acres of significant open space is privately held and potentially subject to development. Town-owned conservation sanctuaries total only 56 acres, ~1 percent of the land base. Since 2005, ~27 new acres were protected as parkland (Skyline Park and Fisher Hill Reservoir) or under conservation restrictions, and the Town Reservoir (<5 acres) was sold for housing.

How Open Space Is Protected

Article 97

Land is considered protected if it falls under Article 97 or if it is protected by a conservation restriction or owned by a conservation land trust. The Article 97 Amendment is a provision of the Massachusetts Constitution, added in 1972, which prevents the taking of public park, recreation, and conservation lands for other purposes without a majority vote of the Conservation Commission or Park and Recreation Commission, Board of Selectmen, Town Meeting, and a two-thirds vote of both houses of the State legislature. This inventory identifies 602 acres of Article 97-protected land.

Conservation Restrictions

Conservation restrictions are legally enforceable agreements imposed through deeds that prevent development of privately-owned open space under M.G.L. c.184 s.3 1-33. Brookline holds 18 such conservation restrictions (including a number of private properties, and three on Brookline Conservation Land Trust properties). One parcel, Fisher Hill Reservoir, is owned by the Town, with a conservation restriction held by the Brookline GreenSpace Alliance. Restricted property is generally taxed at a lower rate than any portion of the property which is not under a conservation restriction. The restriction may run in perpetuity or be time-limited. Public access is not a requirement. Conservation restrictions allow a property owner to retain control of the land, but ensure most of it is preserved as open space by prohibiting development. It is possible to negotiate for public access or a gift of land at a future date. The same statute also authorizes preservation restrictions for properties with historical or cultural significance.

Brookline Conservation Land Trust

The Brookline Conservation Land Trust is a private non-profit corporation established for the purpose of preserving open space. Gifts of land to the trust are charitable donations and carry tax advantages. Currently, the Brookline Conservation

OPEN SPACE INVENTORY

Land Trust protects four properties. Of these, they own three parcels with conservation restrictions held by the Town, and the fourth parcel is privately -owned with a conservation restriction held by the Brookline Conservation Land Trust.

Special Taxation Programs

Privately owned land which is used for agriculture or for recreation can be given tax advantages under M.G.L c. 61A and c. 61B. These statutes help preserve open space by relieving pressures on property owners. A condition of this preferential assessment is that the Town holds the first right-of-refusal on any sale. Allandale Farm is assessed under Chapter 61A and The Country Club is assessed under Chapter 61B.

These properties are not considered protected because the Town would have to come up with a relatively large sum of money in a short period of time (120 days) to exercise its right to purchase the properties. The owner may also remove the property from the program by rollback or conveyance taxes. Therefore, the Town must assume these properties are partially or fully developable at some time in the future. Together, Allandale and the Country Club total ~300 acres.

Private Open Spaces

Brookline has approximately 650 acres of private unprotected open space. This represents almost half of the Town's current open space and is 15% of the Town's landbase. This private, unprotected open space includes agricultural and recreational land, large parcels owned by private institutions and private residential properties over 3 acres in size. Much of this open space is inaccessible to the public but has significant aesthetic and environmental value to the Town and the community. A significant portion of open space is controlled by private owners who may choose to develop or otherwise alter their property. Land throughout the Town that is taken for granted as open space may well disappear over time. As a consequence, the Town would not only lose the potential for new public parks, conservation areas, and recreation facilities, but this would also profoundly alter the visual and social character of Brookline.

INVENTORY

The following inventory of lands of conservation and recreation interest has been derived from the following sources:

Parks, Open Space and Recreation Strategic Master Plan 2006;
 Open Space Plan 2005 and 2000;
 2003 Brookline Parks and Open Space Inventory Database;
 Field Use Tables provided by the Town of Brookline, Division of Parks and Open Space;
 other recreational facilities information provided by the Brookline Recreation Department;
 aerial photographs provided by the Brookline GIS program;
 Field Inventory conducted by the project team in fall 2004 and spring 2005

List of Properties by Category

Conservation Areas

D. Blakely Hoar Sanctuary
 Hall's Pond Sanctuary
 Amory Woods
 Lost Pond Conservation Area
 Lost Pond Reservation

Historic Parks

Brookline Reservoir
 Emerald Necklace (1) – Riverway
 Emerald Necklace (2) – Olmsted
 Larz Anderson Park
 Longwood Mall
 Fredrick Law Olmsted National
 Historic Site
 Town Green

Community Parks

Amory Playground
 Brookline Avenue Playground
 Cypress Street Playground
 Daniel W. Warren, Jr. Playground
 Fisher Hill Reservoir (in development)
 Harry Downes Field
 Skyline Park
 Soule Recreation Center
 Waldstein Playground

Passive Parks

Corey Hill Park
 Dane Park
 Knyvet Square
 Linden Park
 Linden Square
 Little Field Park
 Mason Square
 Monmouth Street Park
 Philbrick Square
 Judge Henry Crowley Park at Saint Mark's Square
 Town Hall Lot

Neighborhood Parks

Billy Ward Playground
 Boylston Street Playground
 Clark Playground
 Judge Sumner Z. Kaplan Park at Coolidge
 Playground
 Daniel F. Ford Playground at Emerson Garden
 Griggs Park
 John E. Murphy Playground
 Juniper Street Playground
 Lawton Playground
 Lotta Bradburn Schick Park
 Margaret E. Robinson Playground
 50 Pleasant Street
 Winthrop Square

School Playgrounds

Baker School Playground
 Baldwin School Playground
 Devotion School Playground
 Driscoll School Playground
 Heath School Playground
 Longwood Playground
 Pierce School Playground
 Runkle School Playground
 William H. Lincoln School Playground (New)
 William H. Lincoln School Playground (Old)

Cemeteries

The Old Burying Ground
 Holyhood Cemetery
 Walnut Hills Cemetery

Golf Course

Robert T. Lynch Municipal Golf Course at
 Putterham Meadows

Agricultural and Recreation Land

Allendale Farm
 The Country Club

OPEN SPACE INVENTORY

Conservation Restrictions

Sargent's Pond
Hellenic Association
Walnut Place
235-255 Goddard Avenue
Town Houses at Larz Anderson
Sears Estate
Paine Estate
133 Goddard Avenue
Longyear Estate
Goddard House
Ivy Street, Map 9, Lot 1
Ivy Street, Map 12, Lot 4A
153 Rangeley Road
Saint Aidan's
170 Sargent Road
Fisher Hill Reservoir

Brookline Conservation Land Trust

Walnut Street
Lot 1 Sargent Beechwood
Lot 5 Cottage Street
Richardson Property

Traffic Medians, Circles and Triangles

Beacon Street Mall
Brington Road Island
Corey Farm Circle
Dudley Triangle
Dwight Square
Eliot and Crafts Road Triangle
Francis J. Hickey Square
Francis X. Ryan Circle
Freeman Square
Hammond Pond Parkway
Horace James Circle
Pleasant Street Triangle
Single Tree Road Circle
VFW Parkway Median
Webster Street Triangle
West Roxbury Parkway

Other Small Open Spaces

Clark Road Land
Clark Road/MBTA Land
Clinton Road Waterworks Land
Health Department Lot
Newton Street Parcel
Reservoir Road Extension
Reservoir Road Land
Single Tree Reservoir
Town Reservoir

Key

National, State and Local Protection of Park and Recreational Land

NR: National Register of Historic Places
SR: Massachusetts State Register of Historic Places
LHD: Local Historic District

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

OPEN SPACE INVENTORY

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Town of Brookline, Massachusetts

Conservation Areas

Legend

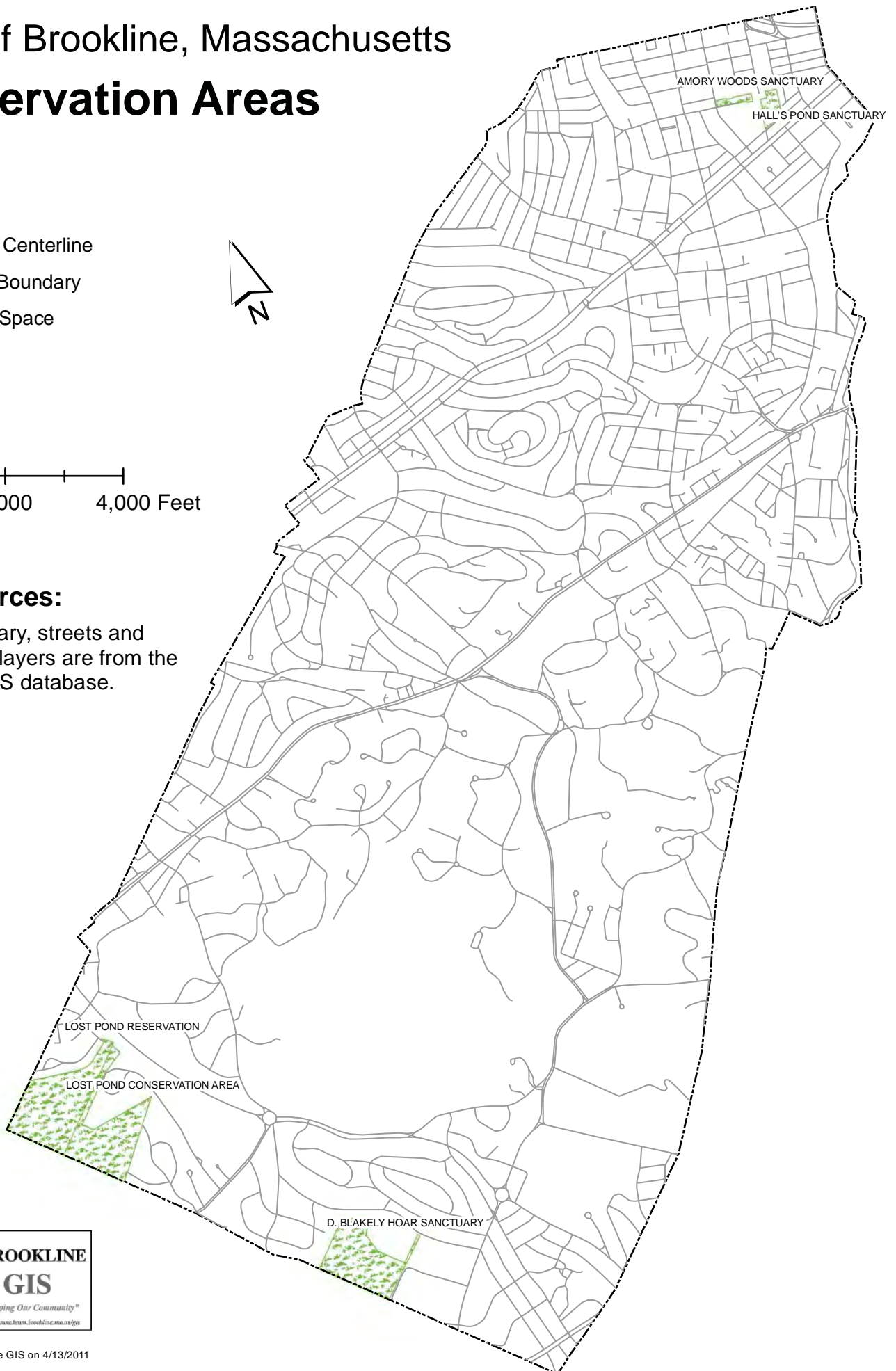
-  Street Centerline
-  Town Boundary
-  Open Space



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Data Sources:

Town boundary, streets and open space layers are from the Brookline GIS database.



A. CONSERVATION AREAS

D. Blakely Hoar Sanctuary

Category	Conservation Area
Size	24.98 acres
Protection	Article 97
Manager	Conservation Commission, Brookline DPW, Parks and Open Space Division
Location	Gerry Road
Precinct	16
Inventory Date	11/01/04, revised 2/1/05
Vicinity	At the back of Baker School and in a single and multi-family neighborhood



OVERVIEW

The D. Blakely Hoar Sanctuary is located in southwestern Brookline, behind the Baker Elementary School. It borders on Gerry Road to the southeast, and Boston to the east and north. It is connected to conservation lands in Boston and Newton. This natural, undeveloped 25 acre area contains several typical plant communities. A trail with several boardwalks circles the sanctuary. The south branch of the Saw Mill Brook flows through the Sanctuary from east to west. It cuts through an extensive red-maple swamp and vernal pool habitat. Cliffs and outcrops of “puddingstone” (Roxbury conglomerate) define the north edge of the sanctuary.

A wooded upland is found in the northeastern part of the sanctuary. The most common trees here are maple, oak, cherry, and birch. There is an understory of shrubs and an herbaceous layer of woodland plants. Adjacent to Gerry Road is a grove of trees, once part of a beech-hemlock forest. Many of the hemlocks have been damaged by woolly adelgids; wind damage has taken a toll on the larger trees. There has been extensive damage to the understory, shrub layer and herbaceous plant layer, partly due to overuse.

The sanctuary is used for wetland protection, conservation of wildlife habitat, environmental education, and passive exploration such as bird - watching and nature walks. Active recreation such as ball games and bicycling, and dog walking are not permitted in the sanctuary.

PARK HISTORY

The Town acquired the sanctuary in 1961 with a bequest from D. Blakely Hoar, a noted Brookline lawyer and conservationist, who stipulated in his will that a portion of his estate be used to establish a bird sanctuary in Brookline. The Conservation Commission assumed responsibility for the sanctuary in 1969.

DEED/TITLE/RESTRICTIONS

No information located in 2003 research.

Hall's Pond Sanctuary and Amory Woods

Category	Conservation Area
Size	Hall's Pond - 3.5 acres Amory Woods – 1.56 acres
Protection	Article 97, NR, SR, LHD
Manager	Conservation Commission, Brookline DPW, Parks and Open Space Division
Location	Behind 1120 Beacon Street
Precinct	1
Inventory Date	10/12/04, revised 2/1/05
Vicinity	Amory playground, condo buildings, single-family homes and a parking lot



OVERVIEW

Hall's Pond is one of two natural ponds remaining in Brookline. The sanctuary contains a pond, wetlands, an upland area, a formal garden area, and a short trail with wetland overlooks that circles the pond. Amory Woods was incorporated into and connected to Hall's Pond in 2000. Amory Woods has a small wetland, handicapped accessible nature trail, and a gazebo. The pond and uplands provide habitat for a variety of birds including great blue herons, black-crowned night herons, kingfishers, and red-winged blackbirds. With no spring or stream feeding the pond, the source of the water in the pond is rainwater falling in the surrounding heavily developed urban land. The sanctuary is used for habitat for plants and animals, environmental education and passive exploration. Active recreation, such as ball games, bicycling and dog walking are not permitted inside the property.

PARK HISTORY

Well into the 1800s, the sanctuary was part of Cedar Swamp. Minna Hall, a co-founder of the Massachusetts Audubon Society, owned it in 1896. About 1910, Charles A. Newhall acquired the land between the pond and Beacon Street and built apartment buildings and formal gardens. Hall's Pond was reduced to its present size around 1948 when a dam was constructed to the west of the pond and the land was filled to create Amory Playground. The Town purchased the property in 1975 as its first conservation land. In 1976 the Friends of Hall's Pond was founded by Josephine Albrecht and other citizens to assist the Conservation Commission in managing it. The 2000 restoration project included the unification of Amory Woods with the sanctuary, the enhancement of the sanctuary's ecological integrity and improvements to the water quality and wetland habitat. The Town acquired Amory Woods in 1977 from the Massachusetts Association for the Blind. The sanctuary and Amory Woods are located within the Cottage Farm Historic District.

The sanctuary saw extensive improvements in 2002, with existing wetlands restored and new wetlands created, improvements to drainage into Hall's Pond, new fencing, a new boardwalk around the pond, installation of commemorative granite piers, and the upland transformed by removal of invasive plant species and replanting with native species. The path system in Amory Woods was improved in 2005.

DEED/TITLE/RESTRICTIONS

It is listed on the State and National Register of Historic Places and is located within the Cottage Farm Historic District.

Lost Pond Conservation Area and Lost Pond Reservation

Category	Conservation Area
Size	Conservation Area - 26.03 acres (owned by the Town of Brookline) Reservation – 33.34 acres (owned by Massachusetts DCR)
Protection Manager	Article 97 Conservation Commission, Brookline DPW, Parks and Open Space Division
Location	Off Newton Street
Precinct	15
Inventory Date	11/05/04, revised 2/1/05
Vicinity	Surrounded by single-family neighborhoods, Skyline Park, and the former Town landfill



OVERVIEW

The Lost Pond Conservation Area is located in the extreme northwest corner of Brookline. This 30-acre tract of natural, undeveloped land adjoins the Kennard Park and Conservation Areas in Newton and the State's thirty acre Lost Pond Reservation. Together, these properties contain over one hundred acres of open woodland, rocky outcrops, marsh, bog and stream. A network of trails interconnects these conservation properties. Lost Pond, one of the few natural ponds remaining in Brookline, is a "kettle hole" pond, formed around a mass of ice left by glacial activity about 17,000 years ago. A quaking peat bog developed on its northern edge. The Lost Pond Reservation, owned by the Massachusetts Department of Conservation and Recreation, property lies adjacent to Lost Pond Conservation Area. The pond is located on the reservation property. The sanctuary is used for wetland protection, conservation of wildlife habitat, environmental education, and passive exploration, such as bird-watching and nature walks.

PARK HISTORY

In 1915, Frederick Kennard diverted the Lost Pond drainage to South Meadow Brook. In 1945 the Town acquired the land. It was used for the Town's incinerator and landfill site from 1952 to 1975. It has since been used as a transfer station. Subsequent leaching from the landfill site near the Pond caused deterioration of water quality. The Town transferred a section of the land to the Conservation Commission in 1982. Two citizens bought the reservation property and donated it to the state.




DEED/TITLE/RESTRICTIONS

No information located in 2003 research.

Town of Brookline, Massachusetts

Historic Parks

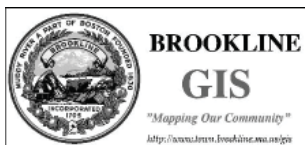
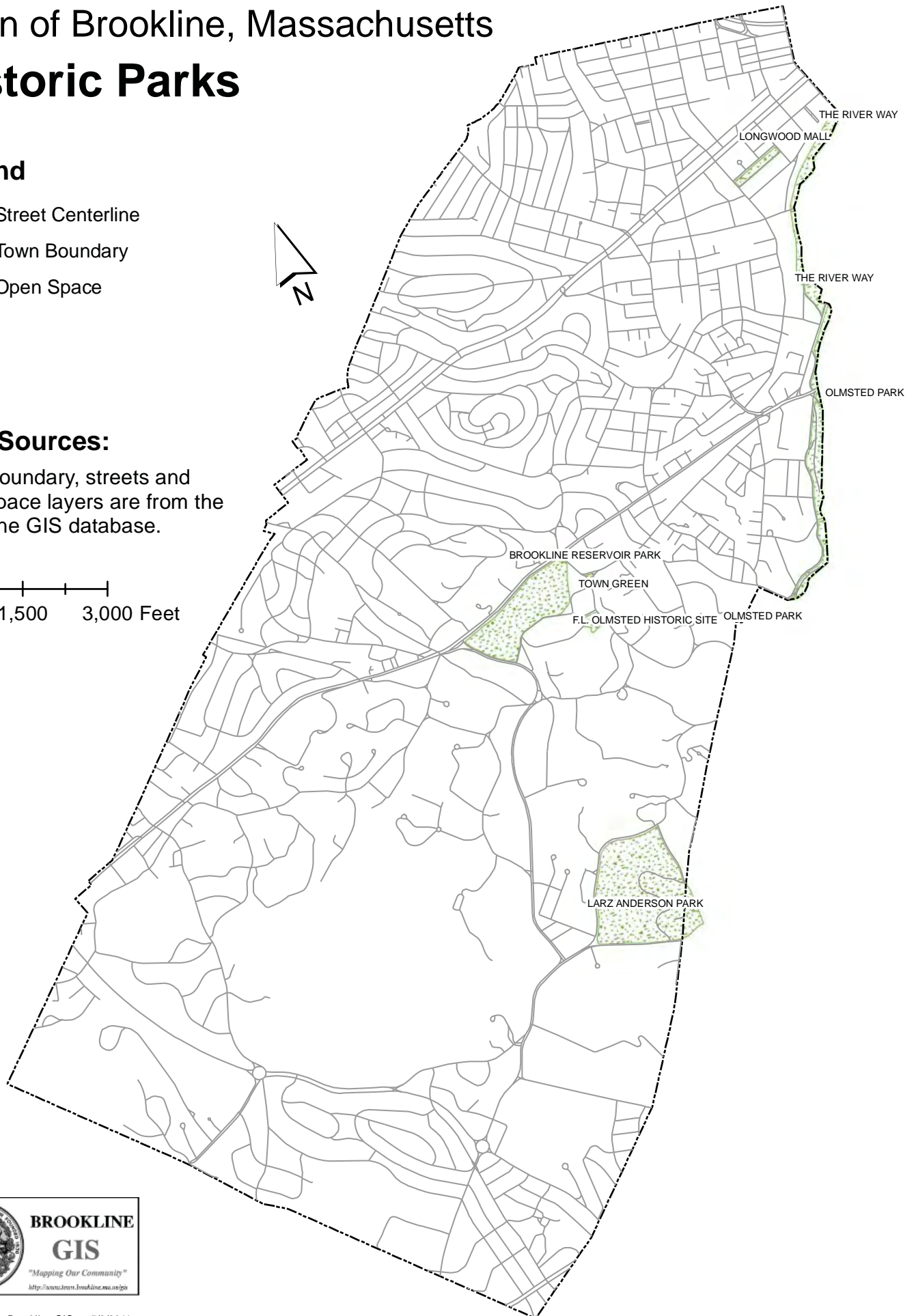
Legend

-  Street Centerline
-  Town Boundary
-  Open Space

Data Sources:

Town boundary, streets and open space layers are from the Brookline GIS database.

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B. HISTORIC PARKS

Brookline Reservoir Park

Category	Historic Park
Size	32.21 acres
Protection	Article 97, NR, SR
Manager	Brookline DPW, Parks and Open Space Division
Location	Along Route 9 between Lee and Warren Streets
Precinct	15
Inventory Date	10/26/04, revised 2/1/05
Vicinity	Bordered by single-family houses and Boylston and Lee Streets



OVERVIEW

The Brookline Reservoir property is a man-made body of water approximately one mile in circumference. A jogging/walking track encircles the reservoir. The entire park is visible from virtually the entire perimeter, while the details of the property become observable when walking along the circular path. The architecturally significant gatehouse is a prominent feature. Most of the park is set below the surrounding roads, creating a feel of separation between the park and abutting lands. Swimming and skating are not allowed on the property. The reservoir is on the National and State Registers of Historic Places. The reservoir is stocked annually with fish by the Massachusetts Department of Fish and Wildlife. Fishing is allowed by permit from the Town Clerk's Office.

PARK HISTORY

The reservoir was originally built as a drinking water supply for the City of Boston. This area was once low-lying pasture land with a marsh in the center and a stream running through it. The reservoir was part of the Cochituate water system and was built to feed the Beacon Hill Reservoir that stood at the intersection of Hancock, Derne and Temple Streets. The Brookline Reservoir was filled to capacity in 1848. Its granite gatehouse has the oldest extant iron roof in the U.S., supported by the oldest extant wrought iron roof trusses in the U.S., and it houses the oldest cast iron staircases in the U.S. intended for public use.

In 1902, the City of Boston decided to sell the reservoir and its surrounding land. Prompted by rumors of undesired development, the neighbors, including Amy Lowell, John C. Olmsted, Walter Channing, Edward Atkinson, and George Lee, contributed more than \$50,000 towards the purchase price of \$150,000.

In 1926, the gatehouse interior was altered to provide rooms and toilet facilities for swimming meets, skating and other occasions, and a pier was built nearby. A 1945 plan to build a beach and bathhouse near Lee and Dudley Streets was never realized. The Reservoir Park was considered briefly in 1956 as a possible location for a new Town Hall.

DEED/TITLE/RESTRICTIONS

The land was purchased from the City of Boston with the condition to "operate and maintain to flow water through." The property is individually listed on the State and National Register of Historic Places and as part of the Cochituate Aqueduct Linear National Register District.

Emerald Necklace I - Riverway Park

Category	Historic Park
Size	13.8 acres
Article	Article 97, NR, SR
Manager	Brookline DPW, Parks and Open Space Division
Location	Between Boylston and St. Mary's Streets
Precinct	1, 3, & 4
Inventory Date	10/09/04, revised 2/1/05
Vicinity	Surrounded by major streets, shopping center, Harvard Medical School, Emerson College, MBTA train track and apartment buildings



OVERVIEW

The Riverway and Olmsted Park form a green space that runs through Boston and a portion of Brookline linking the Boston Common and Franklin Park. The Riverway forms the lower, narrower section of the Emerald Necklace Park System between Brookline Village and the Back Bay Fens. Riverway's eight landscaped acres with walkways and stone bridges provide a shady respite from the urban traffic.

PARK HISTORY

Frederick Law Olmsted, Sr., designed Boston's "Emerald Necklace." His plan for the "Sanitary Improvement of the Muddy River" (1881, revised 1890), required close to fifteen years for implementation. The "Riverway" Project included recontouring the banks on both sides of the Muddy River and the tidal marshlands, and planting them with native trees and shrubs, many of which were eventually chosen by Brookline Park Commissioner Charles Sprague Sargent.

Land for the park construction was purchased between 1881 and 1894 from private property owners. In 1929, funds were allocated by Town Meeting to clean and deepen the Muddy River. In the mid-1980s, as part of the Massachusetts Olmsted Historic Landscape Preservation Program the Commonwealth appropriated over \$1 million for the restoration of the Riverway and Olmsted Park. The Emerald Necklace Park System, including Riverway and Olmsted Park, are listed on the National Register of Historic Places.

DEED/TITLE/RESTRICTIONS

The Town acquired the properties of both parks between 1863 and 1900 with 40 transactions. Most of the parcels were acquired "to be used for park purposes under the supervision of the Park Commissioner." Some of the original property owners included Trustees of Aspinwall Land Company, Trustees of the Brookline Land Company, Overseers of the Poor, City of Boston and the House of the Good Shepherd. It is listed on the State and National Register of Historic Places.

Emerald Necklace II - Olmsted Park

Category	Historic Park
Size	12.94 acres
Article	Article 97, NR, SR
Manager	Brookline DPW, Parks and Open Space Division
Location	Between Chestnut and Boylston Streets
Precinct	4 & 5
Inventory Date	10/09/04, revised 2/1/05
Vicinity	Surrounded by major streets, Brookline Village, and apartment buildings



OVERVIEW

Olmsted Park has three major ponds, a watercourse connecting them, six historic pedestrian bridges and attractive walkways and stone walls sheltered from the busy city by the densely wooded areas. The Park forms the broader segment of the Emerald Necklace Park System. Olmsted Park is directly adjacent to Jamaica Pond. The park has the second largest historic forest in the Necklace with 17 acres of forest cover. Ward's Pond, a protected preserve in the park, has boardwalk access. Babbling Brook, near Willow Pond, is currently under restoration.

PARK HISTORY

Olmsted Park was designed as a chain of picturesque fresh-water ponds, alternating with attractive natural groves and meadows. Included in the plans for Olmsted Park was the creation of Leverett Pond from a swamp near Brookline Village. Originally named Leverett Park, the park's name was changed in 1900 by the Boston Parks Commissioners to honor Olmsted.

Land for the park construction was purchased between 1881 and 1894 from private property owners. Seven "Natural History" ponds were created between Ward's and Willow ponds in 1893 for Natural History Society educational programs. They were filled in during the last years of the 19th century. In the mid 1980s, as part of the Massachusetts Olmsted Historic Landscape Preservation Program, the Commonwealth appropriated over \$1 million for the restoration of the Riverway and Olmsted Parks. The Olmsted Master Plan was implemented in 1997 and 1998 with funds from the Community Development Block Grant. The Willow Pond and Ward's Pond footbridges were restored between 1983 and 1984 through a grant from the George B. Henderson Foundation to the Massachusetts Association for Olmsted Parks. The Emerald Necklace Park System is listed on the National Register of Historic Places.

DEED/TITLE/RESTRICTIONS

The Town acquired the park property between 1863 and 1900 through 40 transactions. Most of the parcels were acquired "to be used for park purposes under the supervision of the Park Commissioner." Some of the original property owners included Trustees of Aspinwall Land Company, Trustees of the Brookline Land Company, Overseers of the Poor, City of Boston, House of the Good Shepherd, Trustees of A. Aspinwall estate, and Boston & Albany Railroad Company. It is listed on the State and National Register of Historic Places.

Larz Anderson Park

Category	Historic Park
Size	61.13 acres
Protection	Article 97, NR, SR
Manager	Brookline DPW, Parks and Open Space Division
Location	Newton Street
Precinct	15
Inventory Date	10/01/04, revised 2/1/05
Vicinity	Mainly single-family houses, town houses and school



OVERVIEW

Larz Anderson Park, the largest park in Brookline, was formerly the Larz Anderson estate. It is composed of large expanses of lawn at the top of the hill, playing fields, and sweeping slopes. At the highest point (where the main house stood), there are exceptional views of Boston. The hill provides opportunities for active and passive recreation that are not available elsewhere in Town. The grassy slopes provide a premier spot for sledding, watching sunsets, observing stars, kite flying and simply running on the slopes.

The architecturally significant Carriage House remains and houses the Museum of Transportation. Contemporary uses include a hilltop outdoor skating rink in the former Italian Garden and picnic areas with grills, located close to the newly restored pond, athletic fields and a playground. The park houses several Town offices including the Division of Parks maintenance yard. The community garden has over 80 plots.

PARK HISTORY

The land was the property of the Goddard family during the Revolutionary War. William Fletcher Weld purchased it between 1841 and 1881 to create "Windy Top," his country estate. William Fletcher Weld II inherited the property and built a polo ground where the athletic fields are now located.

Isabel Weld Anderson and Larz Anderson acquired the property and transformed it into one of the show-cases of New England. Mrs. Anderson bequeathed the main portion of the estate to the Town. The town report of that year states that the plants in the greenhouses were set in the Town's parks, squares and around public buildings. The Town tore the vacant house down in 1955 and removed the Italian garden to make space for the skating rink. With funds provided by a Massachusetts Self-help grant, the Town is preserving and stabilizing the landscape and the gazebo as well as renovating the playground. In 2010, the Larz Anderson Skating Pavilion was renamed the Jack Kirrance Ice Skating Rink, in honor of Jack Kirrane, a life-long resident of Brookline and a member of the American 1948 and 1960 Winter Olympics Hockey teams, winning the gold medal in 1960.

DEED/TITLE/RESTRICTIONS

Isabel Anderson donated the land to the Town "for purposes of public recreation, or for charitable purposes, or for purposes of public education" in 1951. The property is individually listed on the State and National Register of Historic Places. There is also a 1998 Massachusetts Historic Commission Preservation Restriction for the top of the hill.

Longwood Mall

Category	Historic Park
Size	2.55 acres
Protection	Article 97, NR, SR
Manager	Brookline DPW, Parks and Open Space Division
Location	Kent & Beech Streets
Precinct	1
Inventory Date	11/01/04, revised 2/1/05
Vicinity	Surrounded by single-family houses and Wheelock College's Brookline campus, near Beacon St.



OVERVIEW

Longwood Mall is a linear park with historic beech trees, many of which were planted by David Sears. The mall is considered the oldest grove of European Beech trees in the U.S. The rectangular park has no site furniture, and is located on relatively flat land. Visitor activities are restricted.

PARK HISTORY

Longwood Mall is one of the four parcels of open space parks that were the brainchild of David Sears. By 1850's, he had planted fourteen thousand trees in the Longwood area. He later reported that ten thousand had survived. When the Town took possession of the park, it cut down other trees to give more room to the beech trees. In 1925, more beeches were set. In 1983, the Friends of the Longwood Mall established a fund for long-term maintenance for the trees. This group was presented with a Massachusetts Historical Commission Preservation Award in 1984 for their work in saving this unique resource. The park is listed on the National Register as part of Longwood Historic District.

DEED/TITLE/RESTRICTIONS

The Town acquired the property from Francis Shaw in 1902 with the condition that it "shall be laid out...as public parks...and shall never be used for the purpose of a playground, as distinguished from a public park." It is listed on the State and National Register of Historic Places and is within the Longwood Historic District.

Frederick Law Olmsted National Historic Site

Category	Historic Park
Size	1.51 acres
Protection	National Park Service
Manager	Federal
Location	99 Warren Street
Precinct	15
Inventory Date	N/A
Vicinity	Surrounded by single-family residential homes



OVERVIEW

The house and grounds of America's famous landscape architect and creator of the Emerald Necklace and many other prominent parks are administered by the National Park Service.

Town Green

Category	Historic Park
Size	0.17 acres
Protection	Article 97, NR
Manager	Town of Brookline
Location	Walnut and Warren Streets
Precinct	15
Inventory Date	N/A
Vicinity	Surrounded by residential homes and located in a National Historic District.






OVERVIEW

This was the original center of the Muddy River Parish. During the Revolution, local militia mustered on the green before marching to Concord and Lexington. The Town Green is listed in the National Register of Historic Places.

Town of Brookline, Massachusetts

Community Parks

Legend

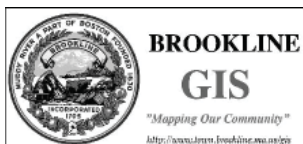
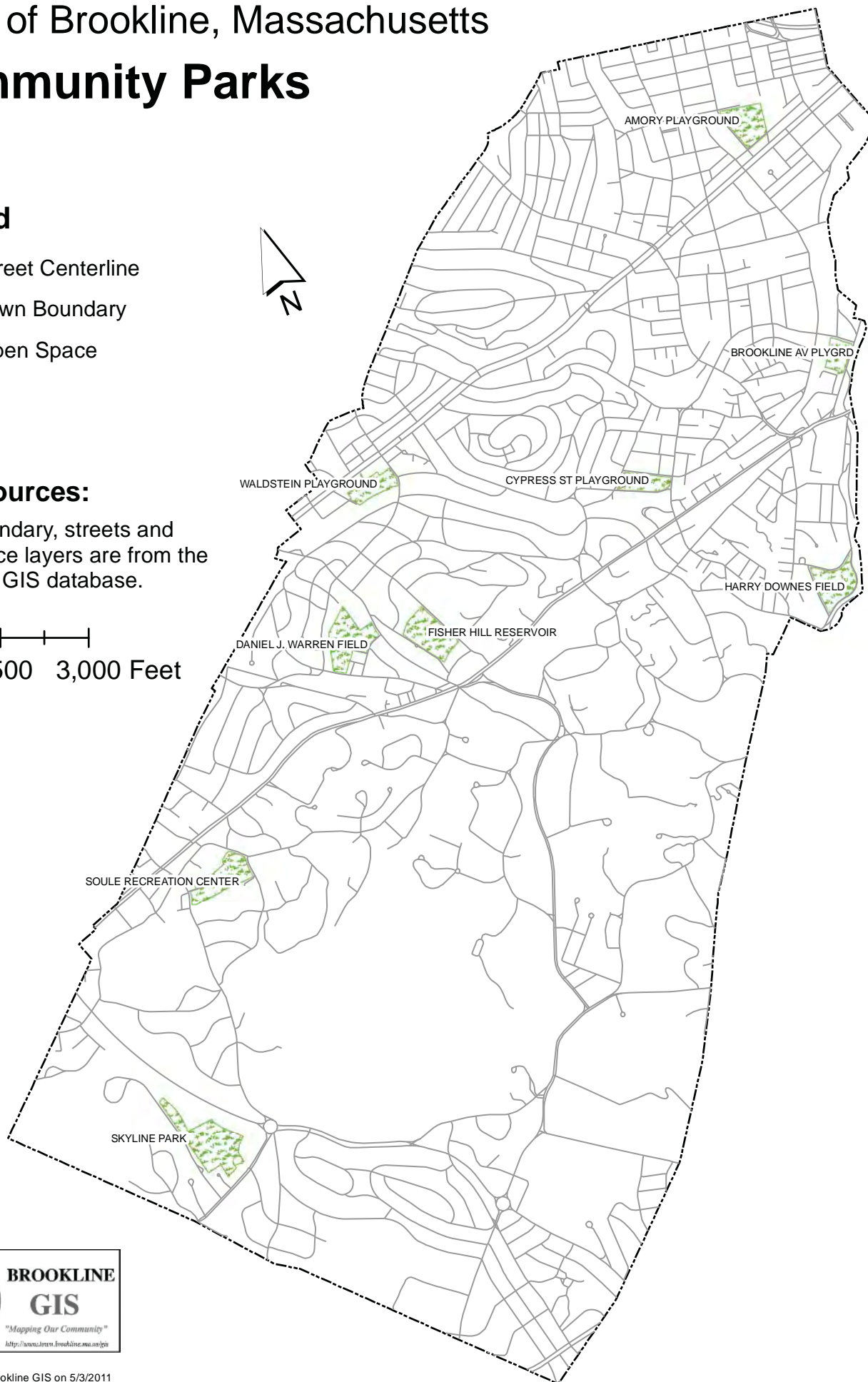
-  Street Centerline
-  Town Boundary
-  Open Space



Data Sources:

Town boundary, streets and open space layers are from the Brookline GIS database.

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C. COMMUNITY PARKS

Amory Playground

Category	Community Park
Size	8.28 acres
Protection	Article 97, NR, SR, LHD
Manager	Brookline DPW, Parks and Open Space Division
Location	Amory Street
Precinct	1
Inventory Date	10/12/04, revised 2/1/10
Vicinity	Located near Beacon Street and bordered by Hall's Pond Sanctuary, Amory Woods, single-family houses and condominium building



OVERVIEW

Amory Playground is located contiguous to Hall's Pond Sanctuary and Amory Woods, within the Cottage Farm Local Historic District. The park's topography consists of a vegetated bowl with a flat center. It is bordered on two sides by Amory Woods and Hall's Pond Sanctuary. The parking area also serves Hall's Pond Sanctuary. Park recreational facilities include 6 clay tennis courts, one baseball and one softball diamond, passive seating among mature oaks, and picnic tables beside Hall's Pond Sanctuary.

PARK HISTORY

Most of this area was originally a large wetland known as Cedar Swamp. Over the years, the swamp became smaller as it was filled and drained. During the 1800s, the land was the property of David Sears, who divided and distributed it among his children. William and Charles Amory resided there until c. 1890, when they began to lease out the property. The hill was leveled, the trees cut down and a portion of the property was taken for Amory Street. It also included a section of Hall's Pond. In 1903, the Town bought 8.2 acres from the Amory Land Trust to be used as a public playground with the option to erect a school on the property.

In 2009, significant renovations to the park were completed, including field improvements, new irrigation, restored turf and drainage, new plantings, new pathways and seating, a new entryway off of Amory Street, and enhanced handicapped accessibility including universal access to the comfort station.

DEED/TITLE/RESTRICTIONS

The Town purchased the property from Trustees of the Amory Land Trust in 1903 for \$62,363.34. The current deed states that the size 356,370 square feet is "more or less." The land is for use as a public playground, "which use however shall not prevent the erection thereon of school houses". Slope rights to Freeman & Essex Street are reserved to the Grantor. The park is also within the Cottage Farm Local Historic District in addition to being listed on the State and National Register of Historic Places.

Brookline Avenue Playground

Category	Community Park
Size	4.05 acres
Protection	Article 97, National Register (eligible)
Manager	Brookline DPW, Parks and Open Space Division
Location	Brookline Avenue
Precinct	4
Inventory Date	10/25/04, revised 2/1/05
Vicinity	Surrounded by train tracks, apartment building, single-family neighborhood, James J. Lynch Recreation Center and Brookline Ave. One block away from Olmsted Park



OVERVIEW

This property, along with Cypress Street Playground, was the Town's first land purchase for parks and recreation. This park is comprised of a large athletic field along Brookline Avenue. The park is relatively flat except for the slope below Aspinwall Avenue and is located partially within the 100-year floodplain of the Muddy River. There is a fenced tot lot near the Lynch Center and an open lawn with a play area.

PARK HISTORY

The Town bought the Brookline Avenue land from Thomas Aspinwall in 1871. This was one of the first municipal purchases of land for playground purposes in the country. The property was not used very much during the 1870s. In 1880 it was deemed "altogether unfit for the purposes bought." By 1896, the users petitioned the Park Commissioners to pay for gymnastic apparatus. An open-air gym was established in 1899. The Town bought another 10,351 square feet in 1915.

DEED/TITLE/RESTRICTIONS

The Town purchased 166,899 square feet of the property "to be by them used, improved, and maintained as and for a public square, park, or common" for \$33,379.80 from Thomas Aspinwall in 1871. Another 4,832 square feet of the property with no restrictions was bought from Trustees of the Aspinwall Land Company in 1887 for \$1,691.20 to be used for Winthrop School, the present Recreation Building next to the park. Another 10,351 square feet of land with no restrictions was purchased from Holtzer-Cabot Electric Company in 1915. Part of this land became the Water Department Pipe Yard and another part was added to the Brookline Ave. Playground. The current park boundary was established in 1974.

Cypress Street Playground

Category	Community Park
Size	5.22 acres
Protection	Article 97, National Register (eligible)
Manager	Brookline DPW, Parks and Open Space Division
Location	Brookline Avenue
Precinct	6
Inventory Date	10/09/04, revised 2/1/05
Vicinity	Bordered by multi-family houses, Cypress Street and Brookline High School



OVERVIEW

The playground is a long rectangular park located between multi-family houses on the north, Cypress Street on the east, the High School on the west and the Main Gym and Kिरrane Aquatic Center on the south. A play area and spray pool are located at the bottom of the slope beside Cypress Street. A basketball court and bleachers stand beside the large multi-purpose field. The fields are used extensively for High School sports, adult leagues, and youth sports. New playground equipment was installed in 1999 and 2000, with donations from neighborhood families and parents of children in the Brookline Early Education Program.

PARK HISTORY

This site, along with the Brookline Avenue Playground, was one of the first municipal purchases for playground purposes in the United States. In 1876, the new property was filled with loam from the Fairmont (now Dudley) Street pit, and thirty young maples were planted. By 1880 the Brookline Athletic Club had built a track and seats for sport exhibitions. The playground was enlarged in 1886. Over the years, the property has been the site of many activities, including ice skating, track meets, baseball, and football.

DEED/TITLE/RESTRICTIONS

The Town bought this land from William B. Craft for \$45,878.50 in 1871 as “public grounds to use, improve, and maintain for the public use forever, as and for a public square, park, common or playground, not otherwise.”

Daniel W. Warren, Jr. Playground

Category	Community Park
Size	11.1 acres
Protection	Article 97
Manager	Brookline DPW, Parks and Open Space Division
Location	Eliot Street
Inventory Date	10/12/04, revised 2/1/05
Precinct	14
Vicinity	Surrounded by single-family houses, wooded areas and neighborhood streets



OVERVIEW

Daniel W. Warren, Jr. Playground includes one of the 3 largest playing fields in Brookline. It serves the Heath School and neighborhood as well as being a town-wide facility for baseball, soccer, and softball. Separate play areas are spread across a large sloping lawn section, and a mix of hardwoods including elm and black cherry provide a shaded canopy. One full-size baseball field and 1 youth baseball field, 3 tennis courts, 2 bang boards and 4 basketball courts are located in the park. Off-street parking is provided off Eliot Street. A log cabin stands in the center of the park. The Eliot Recreation Center is located at the edge of the park.

PARK HISTORY

This park was formerly the home of the Rivers School. Founded in 1915 as an “open air school” beneficial to the students’ health. The park was renamed Daniel W. Warren, Jr. Playground, after Daniel W. Warren, Jr., who became the Superintendent of the Parks and Forestry Department in 1945 and served in that capacity for almost 35 years. Renovation of the park was completed in early 1995. The Town Recreation Department moved into the building in 2004.

DEED/TITLE/RESTRICTIONS

The Town acquired the property from Neillian Realty Co. in 1944 with no restrictions.

Fisher Hill Reservoir (park in development)

Category	Community Park
Size	9.97 acres
Protection	NR, SR, Article 97, Conservation Restriction
Manager	Brookline DPW, Parks and Open Space Division
Location	Fisher Avenue
Precinct	14
Inventory Date	11/05/04, revised 3/1/11
Vicinity	Located opposite the Town Reservoir, between Fisher Avenue and Baxter Road/Hyslop Road Extension



OVERVIEW

The reservoir has been inactive for many years, and was recently purchased by the Town of Brookline from the Commonwealth of Massachusetts. The property is heavily vegetated, including a large number of non-native invasive plants, and provides wildlife habitat for a variety of animals and migrant birds. The Town is in the process of converting the reservoir into a multi-use community park with an athletic playing field, edged by walking paths with native vegetation.

PARK HISTORY

Two citizens bought the property and donated it to the Commonwealth. The reservoir was built by the City of Boston in 1887-88. Its historic gatehouse was designed by Arthur Vinal, and is an important visual marker of the historic nature of the site. The property was transferred from the MDC to the MWRA when the latter was created. The reservoir has been inactive since 1953. In 2001, the Massachusetts Division of Capital Asset Management notified the Town that the former reservoir had been declared surplus property and offered it to the Town for a direct municipal use. In 2002, a Master Planning Committee, established by the Board of Selectmen, evaluated the reuse potential of the site and recommended a scenic amenity and public park. In 2003, a Design Review Committee, also established by the Board of Selectmen, developed a plan and program for the park with associated costs. The Town then passed a home rule petition and filed enabling legislation for the purchase of the property, which was signed by the governor. In February 2011, the Town purchased the Fisher Hill Reservoir from the State, and executed a conservation restriction for the property. Currently, a Design Review Committee, appointed by the Board of Selectmen, is in the process of reviewing the conceptual master plan for the park, and finalizing the park design. The new park will include a soccer/playing field that will also serve as a Great Lawn, walking paths, seating, a comfort station, and parking. In addition to providing active and passive recreational opportunities for the community, the park will have a large wooded buffer for wildlife habitat, and will preserve the historic gatehouse and part of the reservoir berm.

DEED/TITLE/RESTRICTIONS

It is listed on the State and National Register of Historic Places. The Town purchased the 432,512 square foot property from the Commonwealth of Massachusetts in 2011 for \$800,000, with the condition that in accordance with Chapter 20 of the Acts of 2008, "the Premises shall be used only for open space or active or passive recreation purposes, with the exception of the area containing approximately 12,000 square feet...which may be used by the [Town] for a municipal storage facility." The conveyance of the property to the Town was also subject to a conservation restriction, which the Town executed concurrently. There is also a proposed preservation restriction for the gatehouse.

Harry Downes Field

Category	Community Park
Size	8.73 acres
Protection	Article 97
Manager	Brookline DPW, Parks and Open Space Division
Location	Pond Avenue
Precinct	5
Inventory Date	10/26/04, revised 2/1/10
Vicinity	Neighborhood of single and multi-family homes surrounded by neighborhood streets, across from Olmsted Park



OVERVIEW

Harry Downes Field, surrounded by trees on two sides and a dense neighborhood, is across from Olmsted Park. The park includes a track, field facilities, synthetic turf soccer and football fields, and one softball diamond. There is also a play area located at the southwestern end of the site, and a restroom and storage building located behind the backstop in the northeastern end of the field. Mature oaks line the southern edge of the property.

PARK HISTORY

The Town voted to buy this land from Massachusetts Institute of Technology in 1906. The purchase did not take place until 1914. It was named Brookline Stadium, then renamed Brookline Field. A field house and grandstand were built in 1929. There were plans to enlarge the field and to put in a running track. In 1979, improvements included a new tot lot, field house, bleachers, running track and three ball fields. Additional improvements occurred in 1983, funded by the Land and Water Conservation Fund. Another reconstruction took place in 1994-1995.

In 2006, a portion of Harry Downes became the Kraft Family Athletic Facility, following the installation of a state of the art synthetic turf field and resurfacing of the track, thanks to a generous donation by the Kraft family, as well as a grant from the National Football League.

DEED/TITLE/RESTRICTIONS

The Town purchased the property from Massachusetts Institute of Technology in 1914 for \$85,000. There are no known restrictions on the property.

Skyline Park

Category	Community Park
Size	15.15 acres
Protection	Article 97
Manager	Brookline DPW, Parks and Open Space Division
Location	Newton Street, Saw Mill Road (previously Incinerator Drive)
Precinct	15
Inventory Date	10/01/04, revised 2/1/10
Vicinity	Adjacent to Lost Pond Conservation Area, located at the former Newton Street landfill



OVERVIEW

This is Brookline's newest park, and the first new park added in over 25 years. The park includes a regulation sized, multi-purpose synthetic turf field, a playground with play equipment for all ages, a covered shelter with picnic tables, benches, recreational pathways that connect to Lost Pond Sanctuary, landscaping with new plantings, restored wetlands, a comfort station, and a parking area. Skyline Park is situated on the top and sides of a gently sloping hill, allowing for scenic views of the surrounding area.

PARK HISTORY

The location is the site of the former town landfill, the Newton Street landfill, which was capped and the land reclaimed for a public park. Funding for the new park was provided by the Town of Brookline, the Commonwealth of Massachusetts Urban Self-Help Program, and the Brookline Travel Soccer Club. The park was named Skyline Park and was officially opened in 2008.

DEED/TITLE/RESTRICTIONS

There is an access agreement with the Massachusetts Department of Conservation and Recreation that allowed part of the park to be built on their property.

Soule Recreation Center

Category	Community Park
Size	9.49 acres
Protection	Article 97, NR, SR
Manager	Brookline DPW, Parks and Open Space Division
Location	Hammond Street
Precinct	15
Inventory Date	10/26/04, revised 5/1/11
Vicinity	Surrounded by Hammond, Heath, and Woodland Streets and wooded area



OVERVIEW

The site has a wooded area, a specimen beech tree (which played a deciding role in the location of the rear soccer field), an isolated land area subject to flooding, and an interesting geological history. In addition to puddingstone and other rock outcroppings, the soil content is unique with eleven feet of peat found in one of the fields. Robinson Field, located near the site of the original main house, has 1 soccer field. The property also houses the newly renovated Environmental Education Center. The center has seasonal public restrooms and holds environmental education programs, including our summer and school vacation nature camps. The entire recreation area includes 2 soccer fields, including a new synthetic turf field, tennis courts, expanded play equipment for both toddlers and school age children, and a splash pad water play area.

PARK HISTORY

In 1961, the Town bought this property for recreational purposes. The main house burned in 1963. The carriage house continues to be used as the Soule Recreation Center. The Baldwin School playground is contiguous with the recreation area. The area was renovated in 1995 and 1996 with Urban Self-Help State funds. A design review process began in 2005 to replace the play equipment, and in 2007, construction was completed on the new equipment, providing exciting new play opportunities for all ages, as well as a new water play area. In 2011, there was a complete renovation of Lower Soule Field, including the installation of a new synthetic turf soccer field, improved drainage, a new handicap accessible entrance plaza, seating areas, improved site plantings, and replacement of sidewalks and fencing. This renovation was thanks to a generous donation by the Brookline Soccer Club.

DEED/TITLE/RESTRICTIONS

The Town acquired the property from Rivers School in 1960 with no restrictions. This property is located in the Chestnut Hill Historic District and is on the State and National Register of Historic Places.

Jean B. Waldstein (Dean) Playground

Category	Community Park
Size	5.63 acres
Protection	Article 97
Manager	Brookline DPW, Parks and Open Space Division
Location	Dean Road
Precinct	14
Inventory Date	11/02/04, revised 2/1/05
Vicinity	Enclosed by oak trees, train tracks, at the back of an apartment building parking lot, flanked by two churches



OVERVIEW

Large mature oaks line the edge of this park. There is open lawn on one side and an extensive array of recreational facilities on the other side. From Dean Road, the park appears as a large, open green field. From Clinton Path, the park appears to be a buzzing recreational area. The park has 8 new tennis courts. There is a play area, seating areas, and youth baseball field.

PARK HISTORY

This property was acquired in 1901. Originally, the Village Brook ran through it. The brook was covered and the lower side toward Beacon Street, was filled to make way for playing fields. In 1918, tennis courts were built. Tournaments for tennis and croquet were held here. When Clinton Path was laid out around 1903, a strip of land was bought from Boston and a flight of stairs from Dean Road was built. It was re-sodded in 1996 and the irrigation system was upgraded in 1997.




DEED/TITLE/RESTRICTIONS

The Town acquired 247,760 square feet of the property from Susan Wadsworth et al under the condition that "no apartment buildings or stables to be erected there on." This parcel was previously called Beacon Street Playground and later called Dean Park. This information came from the 1960 deed research but could not be located during the 2003 deed research. The Town purchased another 2,935 square feet from the City of Boston in 1903 with no restrictions.

Town of Brookline, Massachusetts

Passive Parks

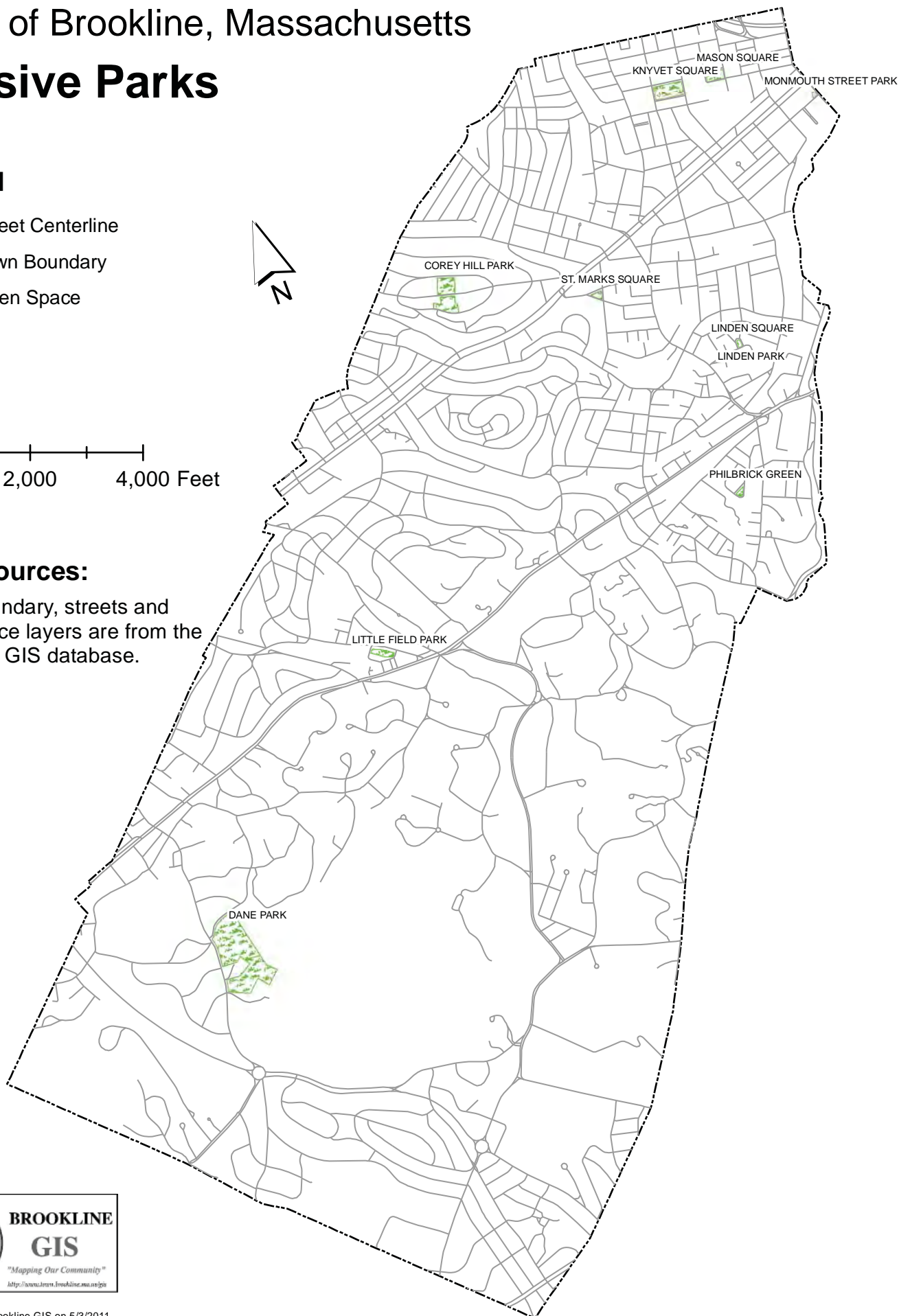
Legend

-  Street Centerline
-  Town Boundary
-  Open Space

0 2,000 4,000 Feet

Data Sources:

Town boundary, streets and open space layers are from the Brookline GIS database.



D. PASSIVE PARKS

Corey Hill Park

Category	Passive Park
Size	4.16 acres
Protection	Article 97
Manager	Brookline DPW, Parks and Open Space Division
Location	Summit Avenue
Precinct	11
Inventory Date	10/28/04, revised 2/1/05
Vicinity	Bisected by Summit Avenue on top of the hill, surrounded by a single-family neighborhood and condo buildings



OVERVIEW

The most significant attribute of this park is its hilltop location and striking view of Boston and Cambridge. The park is divided in two by Summit Avenue. This potential disruption is ameliorated by the mature oaks and maples that line both edges of the street, clearly defining the sides of the park. The southern parcel contains a playground and the northern parcel has a sundial and large open sloped lawn.

PARK HISTORY

The first improved road to the park property was built in 1869. Corey Hill Park was purchased in several transactions between 1900 and 1917. In 1925, the view from the park was threatened by a proposal to construct buildings on lots on the north side. As a result, the Town recommended protecting the park and view by acquiring its adjacent lots. The Town reconstructed both sections of the park between 1985 and 1989. The sundial memorial in the northern parcel is dedicated to Shirley Sidd, former Town treasurer.

DEED/TITLE/RESTRICTIONS

The Town purchased 46,021 square feet of the property from Gardner Beals in 1900 "to be kept open for 20 years," which later formed part of the northern parcel of the park. Another 92,778 square feet purchased from William Maynard in 1916 to be "kept open for park purposes for a period of not less than twenty years from the date hereof" later formed the southern parcel. However, there is an anomaly regarding Lot 20 and a Frances Richards regarding the selling and reselling of the property for \$41.10 in 1917. The Town purchased 24,450 square feet from Old Colony Tr. Co. et al and another 20,450 square feet from Gilbert V. Pennock. Both these lots were added to the northern parcel and their transactions were undated.

Dane Park

Category	Passive Park
Size	17.23 acres
Protection	Article 97
Manager	Brookline DPW, Parks and Open Space Division
Location	Hammond Street
Precinct	15
Inventory Date	11/04/04, revised 2/1/10
Vicinity	Located near Putterham Woods



OVERVIEW

Dane Park is the only passive wooded park in the Town and serves as exceptional wildlife habitat for plants and animals. It is located on former estate land and contains a variety of volcanic formations including a lava dome that was formed when molten lava was hurled out of an active volcano, and lava pillows that resulted when hot lava flows reached the edge of existing dry land and dropped into the sea. A geology trail with informational signs was established in 2001. A wetland, where dumping occurred over the years, has been considerably cleaned up by the Town. The wooded parkland has recreational trails, including an all access trail. One side of the park is along private land with no public access.

PARK HISTORY

Dane Park is a unique natural and historic resource. Once part of the micro-continent Avalon, the rock outcrops in the park have been documented by Professor James Skehan of Boston College as being particularly fine and accessible examples of 575,000,000 year old volcanic rock that support the theory of the formation of the North American continent. The 2009 Dane Park renovation included a new trail system with a handicapped accessible trail, a short boardwalk with a scenic overlook, gathering spots with informal outdoor seating for outdoor classroom use, and an informational kiosk. As part of the renovation, many non-native invasive plants were removed from the park and appropriate native plantings, including an open meadow area, were installed.

DEED/TITLE/RESTRICTIONS

The Town purchased 416,756 square feet of the property from Edward Dane for \$9,000 in 1953 with no restrictions. Edward Dane in turn donated another 318,512 square feet "for recreational or education purposes" the same year.

Knyvet Square

Category	Passive Park
Size	2.8 acres
Protection	Article 97
Manager	Brookline DPW, Parks and Open Space Division
Location	St. Paul and Amory Streets
Precinct	1
Inventory Date	10/12/04, revised 2/1/05
Vicinity	Surrounded by single-family houses and apartment building parking lot



OVERVIEW

This is a formal park on a sloping lawn with geometric plantings. Diagonal paths beginning at each of the four corners of the park intersect in the middle, edged by regularly-spaced trees. There are three distinctive horizontal levels of vegetation: the upper layer of the deciduous trees, a middle layer of ornamental trees, and a lower level of evergreen and deciduous shrubs.

PARK HISTORY

Knyvet Square is part of four parcels of open space parks that were the brainchild of David Sears. He began buying land in 1818 in the area known as Longwood, stretching from the Charles River to the Muddy River. By the late 1840s, Sears began laying out streets, lots and four small parks. The heirs of David Sears gave all four squares to the Town in 1902-1903 to be reserved for park purposes.

In 1961, lights were installed and paths were resurfaced. In 1963, an underground irrigation system was installed, and flowering trees were added around 1975. The Community Development Block Grant funded the 1995 renovation. The major elements of the 1995 renovation were safety related and included repaving of all the walks, removal of dead and dangerous wood from the large trees, and replacement of some flowering trees at the end of their life. Stumps left from recently removed trees were taken out, the area was regraded, drainage was improved, and new landscaping and lighting were kept to a minimum.

DEED/TITLE/RESTRICTIONS

Francis Shaw, heirs of David Sears, transferred the property to the Town with the stipulation that "the parcels of land...shall be laid out...as public parks...and shall never be used for the purpose of a playground, as distinguished from a public park."

Linden Park

Category	Passive Park
Size	0.28 acres
Protection	Article 97, NR, SR
Manager	Brookline DPW, Parks and Open Space Division
Location	Linden Street
Precinct	4
Inventory Date	10/26/04, revised 2/1/10
Vicinity	In a residential neighborhood



OVERVIEW

The park reflects planned suburban subdivisions as advocated by Victorian landscape designer A.J. Downing. Though the perimeter of the park is surrounded by busy local traffic, the ornamental fence creates an inviting feel while protecting park visitors, especially children. The vegetation is simple but works well. The only equipment is a sandbox. The steel picket fencing, period lights, benches, tables, and new landscaping enhance the park.

PARK HISTORY

Linden Park and Linden Square date from 1844 and are listed on the National and State Registers of Historic Places. They were part of a residential development laid out by Thomas Aspinwall Davis and designed by Alexander Wadsworth. Each owner held a right in common to Linden Park and the Court (now Pierce Street) and Avenue (Linden Street). They were "to be forever kept open for the use and proprietors of Linden Place..." Each lot was sold with the condition that "no building shall be erected upon said tracts within thirty feet of Harvard Street or of the Court or Avenues laid down on said plan...the only buildings to be erected upon said land or placed thereon, shall be dwelling houses and their appearances exclusive of all shop yards or conveniences for manufacturing or mechanical purposes."² Of the three planned open spaces, only Linden Park and Linden Square remain. The land to the north and west, now covered with houses, was then a beautiful woods, with a brook running through it. In 1899, the Proprietors of Linden Place released the title and presented the land to the Town. Renovation in 1991 with Community Development Block Grant funds increased user enjoyment. Thanks largely to donor funding, new shrubs, trees, turf and irrigation were installed in the fall of 2008, with the goal of providing seasonal color and interest with native, durable plantings.

DEED/TITLE/RESTRICTIONS

The Town acquired the property from Stone, Fay, et al-proprietors of Linden Pl. in 1900 with the stipulation that it "shall remain as a public open space or park". It is listed on the State and National Register of Historic Places.

Linden Square

Category	Passive Park
Size	0.19 acres
Protection	Article 97, NR, SR
Manager	Brookline DPW, Parks and Open Space Division
Location	Linden Place
Precinct	4
Inventory Date	10/26/04, revised 2/1/05
Vicinity	In a residential neighborhood



OVERVIEW

Linden Square has benches and fences, but no picnic tables. Compared to Linden Park, the trees of the Square have more presence and are more mature. There is a clear, central focal point created by a circular seating area with benches. There is considerably more lawn, but it is not in peak health and is not frequently used.

PARK HISTORY

The park property was originally 1.5 feet below the surrounding streets. It was filled and curbstones set around. There were 28 feet diagonal walks across; the remainder was either grass or shrubbery. Linden Square remained connected with the Davis house. At the April 1, 1895 Town Meeting, the Park Commissioners were authorized to accept this gift of land known as the "horseshoe lot". This square shares its history with Linden Park. The square is listed in the National Register of Historic Places.

DEED/TITLE/RESTRICTIONS

The Town acquired the property from Leonard Stone & Mary G. Stone in 1895 with the stipulation that it "shall remain as a public ornamental open space or park." It is listed on the State and National Register of Historic Places.

Little Field Park

Category	Passive Park
Size	0.84 acres
Protection	Article 97
Manager	Brookline DPW, Parks and Open Space Division
Location	Eliot Street
Precinct	14
Inventory Date	11/05/04, revised 2/1/05
Vicinity	In a residential neighborhood, by Heath School Playground



OVERVIEW

Little Field Park is a small piece of property located next to Heath School, with Eliot Crescent separating the two. It consists of a flat lawn with a row of uniformly mature oak trees in the middle.

PARK HISTORY

The Town acquired this property as 2 lots, one belonging to the City of Boston and the other to a private citizen. A small area of toddler play equipment was removed in the 1980's.

DEED/TITLE/RESTRICTIONS

The Town acquired 181,343 square feet of the property from the city of Boston. No deeds were found for this property transfer that took place between 1907 and 1913. The Town of Brookline divided the parcel into three properties: (1) Heath School, (2) Eliot Crescent, and (3) Eliot Street Park. In 1919, donation from Andrew White added 957.7 square feet of land with no restrictions to the park. In 1964 the park size changed from 43,925 to 37,282 square feet.

Mason Square

Category	Passive Park
Size	1.14 acres
Protection	Article 97, NR, SR, LHD
Manager	Brookline DPW, Parks and Open Space Division
Location	Cottage Farm Street
Precinct	1
Inventory Date	10/13/04, revised 2/1/05
Vicinity	Surrounded by single-family houses



OVERVIEW

Mason Square is unique because of the regularly spaced rows of mature trees located on a flat plane. This quiet park is distinguished by large Red Oaks.

PARK HISTORY

Mason Square is one of the four park parcels that were the brainchild of David Sears (1787-1871). It was named after his wife's family.

DEED/TITLE/RESTRICTIONS

The Town acquired the property from Francis Shaw, an heirs of David Sears, in 1902 under the condition that it "shall be laid out...as public parks...and shall never be used for the purpose of a playground, as distinguished from a public park." It is on the State and National Register of Historic Places and is in the Cottage Farm Local Historic District.

Monmouth Street Park

Category	Passive Park
Size	0.16 acres
Protection	Article 97, NR, SR
Manager	Brookline DPW, Parks and Open Space Division
Location	86 Monmouth Street
Precinct	1
Inventory Date	11/05/04, revised 2/1/10
Vicinity	Adjacent to the Brookline Art Center in a neighborhood of primarily historic brick townhouses



OVERVIEW

The park is recorded in the Longwood National Register Historic District. Striking 1800s architecture borders two sides of the park, while the other two sides are bordered by apartment complexes and the rear of stores. The small-scale ornamental fence adds significantly, framing the park and giving it a clear identity. The vegetation includes a raised planting bed and specimen trees. It is located just a block away from Beacon Street. The park includes open lawn and pathways, as well as custom play equipment for young children.

PARK HISTORY

The park property was originally purchased as two lots. In 1864 the town built Longwood School on one parcel. It was moved elsewhere on the property in 1886 to accommodate the building of a firehouse in the other parcel. The company was transferred to Station #5 on Babcock Street when it opened in 1964. The old firehouse was remodeled and became the Brookline Arts Center in 1968. In Fall 2002, Town Meeting voted for both lots to be protected under Article 97. In 2006, a total renovation of the park was completed, including installation of irrigation, new lawn areas, patio, pathways, seating, fencing, custom toddler playground equipment, ornamental plantings, and landscape connections to the Brookline Art Center. The Parks and Open Space Division was awarded a Certificate of Merit for the renovation of this park in the Longwood Historic District.

DEED/TITLE/RESTRICTIONS

The Town acquired the property from William R. Lawrence in 1864 for \$901.90. The existing firehouse building and the land under that building was exempted from Article 97 in 2002, while the rest of the property was set for park purposes only. It is listed on the State and National Register of Historic Places.

Philbrick Square

Category	Passive Park
Size	0.28 acres
Protection	Article 97, NR, SR, LHD
Manager	Brookline DPW, Parks and Open Space Division
Location	Upland and Maple Streets
Precinct	5
Inventory Date	11/02/04, revised 2/1/05
Vicinity	In a single-family neighborhood



OVERVIEW

Philbrick Square is a small park with a lawn area, benches, and significant mature trees. Olmsted completed the original layout of this park in the 1880's as part of the residential plan for the area. Its shape is a triangle, situated on a slope. The site is bordered by Victorian homes of brick, stone, and wood.

PARK HISTORY

In the 1880's Edward Philbrook hired Olmsted to layout this park as part of a residential development. In 1901, Mabel Foster sold this property to the Town.

DEED/TITLE/RESTRICTIONS

The Town purchased the property from Mabel H. Foster in 1901, to be "kept open and maintained as a public park." This land is located in the Pill Hill Local Historic District and in the Pill Hill National Register District. It is also listed on the State and National Register of Historic Places.

Judge Henry Crowley Park at Saint Mark's Square

Category	Passive Park
Size	0.40 acres
Protection	Article 97
Manager	Brookline DPW, Parks and Open Space Division
Location	Park, Vernon and Marion Streets
Precinct	10
Inventory Date	10/12/04, revised 2/1/05
Vicinity	Surrounded by neighborhood streets and across from St. Mark's



OVERVIEW

The geometry of this park is both small and striking with a triangular shape and paths. There is a slight elevation to the park, resulting in the bench placement being at a slight pitch. A plant bed, blocking the view into the park, dominates the front entrance at the tip of the triangle. The mature trees, ornamental site furniture such as benches, tables, and period light fixtures also define the character of this park.

PARK HISTORY

The Town accepted this triangle from the heirs of Marshall Stearns in 1897 with the restriction that no buildings are to be erected on the property. It was renovated in 1995.

DEED/TITLE/RESTRICTIONS

The Town acquired the property from William Stearns and Hannah Swift in 1897 under the condition that "the premises shall be forever kept open for the benefit of light and air for the convenience and comfort of all..."

Town Hall Lot

Category	Passive Park
Size	1.99 acres
Protection	NR, SR
Manager	Brookline DPW, Parks and Open Space Division
Location	Washington Street
Precinct	6
Inventory Date	11/02/04, revised 2/1/05
Vicinity	By the Town Hall, in a commercial and residential mixed use area



OVERVIEW

Located in front of the Town Hall this is a highly used public space. The site landscape is well-maintained with vegetation, benches, and walkways. Suggestions for redesign or refinements for this area have been made in the Main Library/Town Hall Grounds Master Plan completed in 2005.

PARK HISTORY

No information is available.




DEED/TITLE/RESTRICTIONS

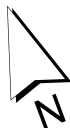
It is listed on the State and National Register of Historic Places.

Town of Brookline, Massachusetts

Neighborhood Parks

Legend

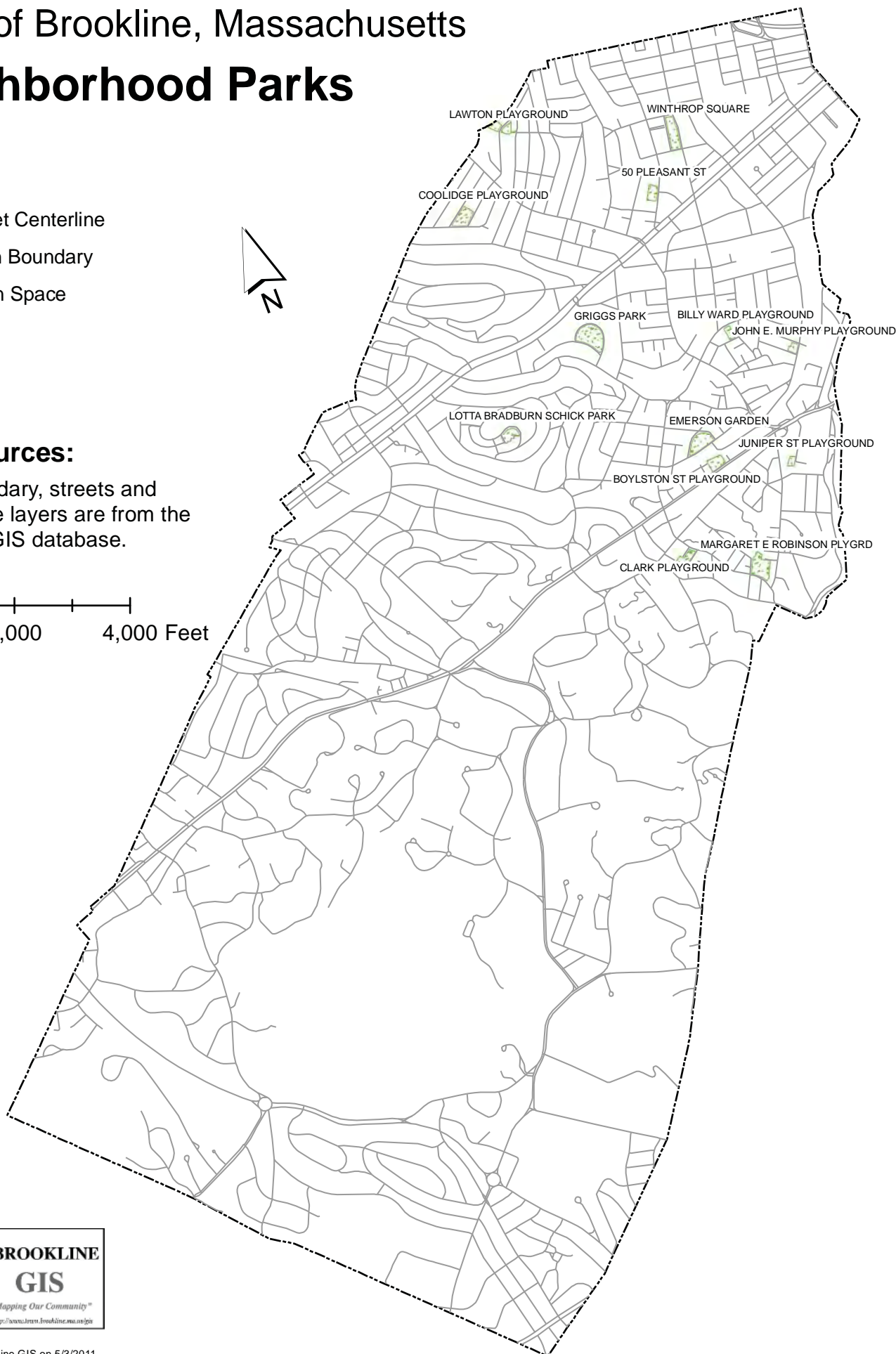
-  Street Centerline
-  Town Boundary
-  Open Space



Data Sources:

Town boundary, streets and open space layers are from the Brookline GIS database.

0 2,000 4,000 Feet



E. NEIGHBORHOOD PARKS

Billy Ward Playground

Category	Neighborhood Park
Size	0.54 acres
Protection	Article 97
Manager	Brookline DPW, Parks and Open Space Division
Location	Brook Street and Aspinwall Avenue
Precinct	6
Inventory Date	10/27/04, revised 2/1/05
Vicinity	In a single-family neighborhood, across the street from St. Mary's Church and St. Paul's Church



OVERVIEW

A pathway bisects the park, creating a series of functional areas. The park contains a grass area, a sand-based play structure, swings, a spray pool, a wooden-roofed play structure, and a basketball court next to the third play structure. Play areas are laid out on different levels with the tot lot in the upper level in a sunken area. Planters, flowering trees, mature trees and open lawn make the park enjoyable for adults as well as children.

PARK HISTORY

The Town acquired this playground between Aspinwall and Brook Streets in 1914 from William and Thomas Aspinwall. At this time, the playground was less than one quarter of its present size and contained a large elm tree and swing set. In 1972, the Town purchased the adjacent lots, demolished the existing houses, and constructed a playground, which was funded by the federal Cities and Parks Program. The renovation created a grass sitting area, a sunken house foundation for gardening and play, a sand area, spray pool, and a half basketball court. In 1992, after a two-year design review process, the playground was renovated again to include updated equipment for tots and older children, a new spray pool, a down-sized basketball key and considerable landscaping and screening. The name of the playground was changed at its dedication from Brook Street Playground to Billy Ward Playground.

DEED/TITLE/RESTRICTIONS

The Town purchased 4,604 square feet of the land from Thomas and William Aspinwall in 1914 for \$423.54. George Belcher Cutts et. al. transferred to the Town 14,716 square feet as two parcels to the Town in 1972 for \$46,600.00. The deed has a "Cancelled" stamp on it, but the land remains in Town ownership. The Town acquired another 4,934 square feet from S. and A.C. Curtis in 1972. No deed records exist for this purchase, but the land plans and atlas confirm the transfer of land.

Boylston Street Playground

Category	Neighborhood Park
Size	1.16 acres
Protection	Article 97
Manager	Brookline DPW, Parks and Open Space Division
Precinct	6
Location	Boylston Street
Inventory Date	10/27/04, revised 2/1/05
Vicinity	Located between the train track and Boylston Street with multi-family houses on two short sides



OVERVIEW

The playground contains a very small playing field and a backstop for softball. It has a basketball court with 4 hoops and a small play area. It is linked to the neighborhoods by a pedestrian bridge over the MBTA tracks.

PARK HISTORY

The Town acquired this property in 1854. It was originally the site of the new South Primary School. The school was used by multiple occupants until 1971 when the building was torn down and the area was converted into playground space. The play equipment, irrigation, and turf were renovated in 2002.

DEED/TITLE/RESTRICTIONS

The Town purchased 42,528 square feet of the property from Elijah Emerson in 1868 for \$7,089.42. Later another 17,046 square feet were purchased from James H McGivney and Ellen J Mealey McGivney in 1901. From this area 3,200 square feet was taken for a street and Davis Path. A size discrepancy occurred in 1964 with total area becoming 50,884 square feet. The property has no known restrictions.

Clark Playground

Category	Neighborhood Park
Size	1.68 acres
Protection	Article 97
Manager	Brookline DPW, Parks and Open Space Division
Location	Cypress Street
Precinct	5
Inventory Date	10/27/04
Vicinity	Located in a single-family neighborhood



OVERVIEW

The many trees in the park and the surrounding wood-frame residences lend this park its domestic character. The mound at the entrance adds interest to an otherwise flat plane. The park has an open lawn area near the play area. Park recreational facilities include a tot lot, swings, a basketball court, and a spray pool.

PARK HISTORY

The Town bought this land, including the large boulder, in 1913. The property was designated as the Clark Playground and was rebuilt in 1990.

DEED/TITLE/RESTRICTIONS

The Town purchased 26,864 square feet of the property from Helen Cutler & Annie Clark and 22,498 square feet from Harriet Vass in 1913. The deeds had the stipulation "to be acquired for playground purposes."

Judge Summner Z. Kaplan Park at Coolidge Playground

Category	Neighborhood Park
Size	1.68 acres
Protection	Article 97
Manager	Brookline DPW, Parks and Open Space Division
Location	Columbia Street
Precinct	9
Inventory Date	10/27/04
Vicinity	Located in a single-family and multi-family neighborhood



OVERVIEW

The playground has a meadow area and a grove of mature trees. Park recreational facilities include tot's and older children's play area, spray pool, tennis court, basketball court, and an open lawn area.

PARK HISTORY

After the Town acquired the property in 1905, it made arrangements to fill it with material from the excavations of the high-level sewer built by the Metropolitan Water and Sewerage Board. The playground was improved and developed in 1965-66 with designs from the Olmsted firm. The Town renovated the park in 1990 with funds from the Community Development Block Grant, adding two play structures and edge landscaping, relocating the playground entrance; and relocating the basketball court to the opposite side of the path. The Town updated the park again with new play structures, pedestrian scale lighting, and improvements to lawn, tennis courts, and pathways in 2004.

DEED/TITLE/RESTRICTIONS

The Town purchased 18,690 square feet of the property from Henry S. Coolidge and 54,452 square feet from Henry, Ellen, and Walter Coolidge in 1905. The property was purchased to develop "for park, playground or public purposes only."

Daniel F. Ford Playground at Emerson Garden

Category	Neighborhood Park
Size	2.05 acres
Protection	Article 97, NR, SR
Manager	Brookline DPW, Parks and Open Space Division
Location	Davis Avenue
Precinct	6
Inventory Date	10/09/04, revised 2/1/05
Vicinity	Surrounded by Davis Avenue and Emerson Street



OVERVIEW

Surrounded by family homes and often hosting community events, Emerson Park is not only a beautiful site but also a gathering point for residents. The diverse perimeter plantings and clearly marked, inviting entrances render a gardenesque character to the park. The park has specimen trees, interesting shrubs, and a circular path around a grassy space. Bench groups are located near the spray pool and at intervals around the walk. Playground facilities include Brookline's first spray pool, and a colorful ship in the toddlers' lot.

PARK HISTORY

Emerson Park was formerly the site of the estate of Elijah Emerson who owned much of the land in the area. In 1908, it was designated as Emerson Garden. The Park Commission asked the Playground Committee to remove the volleyball net because it decided that the grounds and shrubbery were damaged by organized play and voted not to permit any organized play that involved the use of apparatus, including croquet and volleyball. In 1995, the park and equipment were renovated. The park is located in the Cypress - Emerson Historic District and is on the State and National Register of Historic Places.

DEED/TITLE/RESTRICTIONS

The Town purchased the property from Sarah C. Davis et al for \$45,000 in 1907 with the stipulation that "no building exceeding 600 square feet ground area to be erected for 25 years, and must be for the purpose for which tract was purchased." The park is listed on the State and National Register of Historic Places.

Griggs Park

Category	Neighborhood Park
Size	3.34 acres
Protection	Article 97, National Register (eligible)
Manager	Brookline DPW, Parks and Open Space Division
Location	Griggs Road
Precinct	10
Inventory Date	10/27/04, revised 2/1/05
Vicinity	Half a block away from Washington Street



OVERVIEW

Griggs Park is located on a former wetland, in an enclave surrounded by houses and apartment buildings. Willow trees line the circular park. A memorial garden overlooks the wetland. The vegetated central portion attracts birds. The pathway is circular, rounding a collection of trees and vegetation situated next to the former wetland in the middle of the park. The trees blocking the cross view of the park, combined with the meandering pathway, render a more spacious effect than many other parks. Facilities include a paved path and playground.

PARK HISTORY

The Town acquired the park land in parts between 1901 and 1905 although the earliest plan exists from 1897. It was developed as a playground in 1903. The renovation in 1997- 98 addressed the drainage problem, added new plantings, and improved the pathways and sitting areas. A park neighbor donated the benches.

DEED/TITLE/RESTRICTIONS

The Town purchased 8,471 square feet of the property from Lewis Conant and Carrie Conant; 5,221 square feet from Samuel Williams; 16,464 square feet from Mary Russell and 1,652 square feet from Johns Parsons in 1901. There were no known restrictions on these lands. In the same year Thomas Griggs transferred two parcels to the Town, 90,660 square feet with no restrictions and 23,600 square feet "to be used only as a public park and playground for at least 10 years." Deed research conducted in 1960 found Griggs to have donated 182,235 square feet of land, with a portion taken for Griggs Street and Marion Path. The deeds from research conducted in 2003 showed a total of 151,014 square feet. The remaining size discrepancy is most likely due to a missing deed from a large portion of land from F. Haven. The Town acquired additional 2,473 square feet from William Miller in 1903, and another 2,473 square feet from Carrie Burton Jr. in 1905 for \$370.95.

John E. Murphy Playground

Category	Neighborhood Park
Size	0.51 acres
Protection	Article 97
Manager	Brookline DPW, Parks and Open Space Division
Location	Kent and Brook Streets
Precinct	4
Inventory Date	10/27/04, revised 2/1/05
Vicinity	Surrounded by neighborhood streets



OVERVIEW

The park is bowl shaped with a noticeable grade change, retaining walls on three sides and a sloped grass surface. Play equipment, furniture, and entry points are located on two sides. Park recreational facilities include basketball key, tot lot, and spray pool.

PARK HISTORY

Originally the Brook Street lot, the Town bought this site in 1915. In 1971, it was named after John E. Murphy, a former Park and Recreation Commissioner. The playground changed substantially in 1971 when tot play equipment, a basketball hoop and swings were added. In 1993, it was rebuilt under the Town-mandated design review committee's supervision, using Community Development Block Grant funds. In 1998, the drainage problem on the play area was corrected by the Water and Park Departments.

DEED/TITLE/RESTRICTIONS

The Town purchased the property from Harriet A. Howe & Percival S. Howe in 1915 with no known restrictions.

Juniper Street Playground

Category	Neighborhood Park
Size	0.41 acres
Protection	Article 97
Manager	Brookline DPW, Parks and Open Space Division
Location	Juniper Street
Precinct	4
Inventory Date	10/26/04, revised 2/1/10
Vicinity	Bounded by cooperative housing and Housing Authority property



OVERVIEW

Juniper Street Playground is dominated by a steep slope decorated with mature junipers on its banks. The steep wooded slope embracing the two sides of the park provides ample shade. Most of the facility consists of a playground.

PARK HISTORY

This playground is situated directly behind one of Brookline's housing complexes. Renovations and improvements were completed in 2009 and include new play equipment, a small splash pad, site furniture, plantings and improved access to the playground.

DEED/TITLE/RESTRICTIONS

Brookline Redevelopment Authority donated the land to the Town in 1967. The deed and land size does not include the adjoining housing complex.

Lawton Playground

Category	Neighborhood Park
Size	1.08 acres
Protection	Article 97
Manager	Brookline DPW, Parks and Open Space Division
Location	Lawton Street
Precinct	9
Inventory Date	10/27/04, revised 2/1/10
Vicinity	Bisected by Lawton Street; surrounded by multi-unit apartment buildings



OVERVIEW

This playground is divided in two by Lawton Street with two areas of almost equal size. The north side is used for court games. The south portion is a playground for young children. The woodland feel of this portion is due to its small-scale, dense plantings and the unique design of the play equipment. The spray pool, located within the perimeter of the northern side, is lined with trees.

PARK HISTORY

This property was originally the Highway Department yard. Recreational use began in 1956. The Olmsted firm designed the southern side of the park in the 1960s. The first renovation was done in 1971 and included a spray pool, sand box, and play equipment on the south side and a basketball court on the north side. A path to Gibbs Street was added in 1972. Improvements in 1990 included renovating the spray pool and two new play structures. The Community Development Block Grant funded the rehabilitation of the south side. Another round of improvements was completed in 2007, including new play equipment and plantings with a “fairy woodland” theme, a unique granite gateway designed by the sculptor Murray Dewart, a new seating area and entrance from Thorndike Street, a new basketball court, lawn area, pathways and site furnishings.

DEED/TITLE/RESTRICTIONS

The Town acquired 23,459 square feet of the property from Lane in 1940. No deeds exist recording this, but atlas and land plans show this information. Another 20,101 square feet was acquired from Lawton Realty Trust in 1961 for \$ 6,250 “for recreational purposes.”

Lotta Bradburn Schick Park

Category	Neighborhood Park
Size	1.1 acres
Protection	Article 97
Manager	Brookline DPW, Parks and Open Space Division
Location	Addington Road
Precinct	12
Inventory Date	10/27/04, revised 2/1/05
Vicinity	Located on top of the hill



OVERVIEW

This attractive hilltop park includes an open lawn area, several play structures and a shelter.

PARK HISTORY

The park is one among the six lots bought by the Town atop Aspinwall Hill in 1945 for recreational purposes. Formerly known as Addington Park, this property was opened for recreational purposes in 1950. The park was completely renovated in 1997 and 1998 with Town funds.

DEED/TITLE/RESTRICTIONS

The Town acquired the property from George B. Sargent with no restrictions in 1946.

Margaret E. Robinson Playground

Category Neighborhood Park
Size 2.38 acres
Protection Article 97
Manager Brookline DPW, Parks and Open Space Division
Location Cypress and Franklin Streets
Precinct 5
Inventory Date 10/09/04, revised 2/1/05
Vicinity Located along Cypress Street



OVERVIEW

Playground facilities include a youth baseball/softball infield, large paved basketball court, and a play area, with trees in the northwest corner. It is separated from the Walnut Place conservation restriction by one lot. This park has a variety of edge conditions: one is sloped, one lined with trees, two sides are lined with houses, and two with streets. The vegetation is not notable except along the perimeter, where there are mature trees.

PARK HISTORY

The Margaret E. Robinson Playground was the site of the car barn lot for the Boston Elevated Railway Company in the 1890s. Edward H. and Elizabeth B. Hill sold it to the Town for playground purposes in 1939. Margaret E. Robinson was a Brookline resident and served as chair of the Democratic Town Committee, member of the School Committee for six years, Town Meeting Member, president of the Democratic Women's Club, member of the Women's Relief Corps, president of the American Legion Auxiliary of the Brookline Post, and a member of the National Civic Foundation. In 2001, a new irrigation system and field were installed with funds from the Community Development Block Grant.

DEED/TITLE/RESTRICTIONS

Edward H. & Elizabeth B. Hill donated 92,029 square feet of the property to the Town in 1939 "for playground purposes." John L. Newell et al. transferred another 14,113 square feet of the property to the Town with no restrictions in 1965.

50 Pleasant Street

Category Neighborhood Park
Size 0.77 acres
Protection None
Manager Brookline DPW, Parks and Open Space Division
Location 50 Pleasant Street
Precinct 2
Inventory Date 10/09/04, revised 2/1/05
Vicinity Located along Pleasant Street.



OVERVIEW

This small park is part of the Housing Authority Complex.

Winthrop Square

Category	Neighborhood Park
Size	1.93 acres
Protection	Article 97
Manager	Brookline DPW, Parks and Open Space Division
Location	St. Paul Street
Precinct	2
Inventory Date	10/13/04, revised 3/1/11
Vicinity	Surrounded by single-family houses, town houses and apartment buildings



OVERVIEW

This park has a courtyard feel with three sides lined by brick apartment buildings and a clearly defined perimeter fence. There are two sections to the park, one open area and one area with playground equipment, benches, and the Minot Rose Garden with raised flower beds and arbor. Mature trees, primarily maples and oaks, unify its character. The rose garden, raised flower beds, and trellis are additional character-defining elements.

PARK HISTORY

Winthrop Square/Minot Rose Garden was acquired by the Town in four parts. The Winthrop Square property was part of four parcels of open space parks that were the brainchild of David Sears. The Minot Rose Garden section of this park contains an arbor that had been part of the Larz Anderson estate. The park was improved in 1965 with tot equipment. Renovations in 1984 included a spray pool, new play equipment, a renovated field with irrigation system, new swing, drinking fountain, and rose garden irrigation. In 1994, benches, play structures, lighting, and landscaping were added. The Town replaced the older children's wooden play structure in 2002. The rose garden was replanted and restored in 2005 with generous assistance from the Friends of the Minot Rose Garden. A decorative, ornamental metal fence was added in 2008 to finish the rose garden and protect the roses, thanks in part to a grant from the Brookline Community Foundation. In 2011, comprehensive renovations to Winthrop were completed, including replacement of the younger children's play structure, planting improvements including addition of the next generation of oaks and other landscaping, new site furniture, paved pathways and circulation improvements, and fence and gate repairs.




DEED/TITLE/RESTRICTIONS

The Town acquired 46,470 square feet of the property from Francis Shaw, an-heir of David Sears, in 1902 under the condition that it "shall be laid out...as public parks...and shall never be used for the purpose of a playground, as distinguished from a public park." The Town purchased another 10,816 square feet from Robert and Anne Warner in 1909 "to be maintained as a public playground, in accordance with the provisions of Section 19 of Chapter 28 of the Revised Laws." Another 19,991square feet was transferred from Edward P. Shaw et al in 1906 "to be maintained as public playground." This information was located in the 1960 deed research and is confirmed by the land plans. It was not located during the 2003 research.

Town of Brookline, Massachusetts

School Playgrounds

Legend

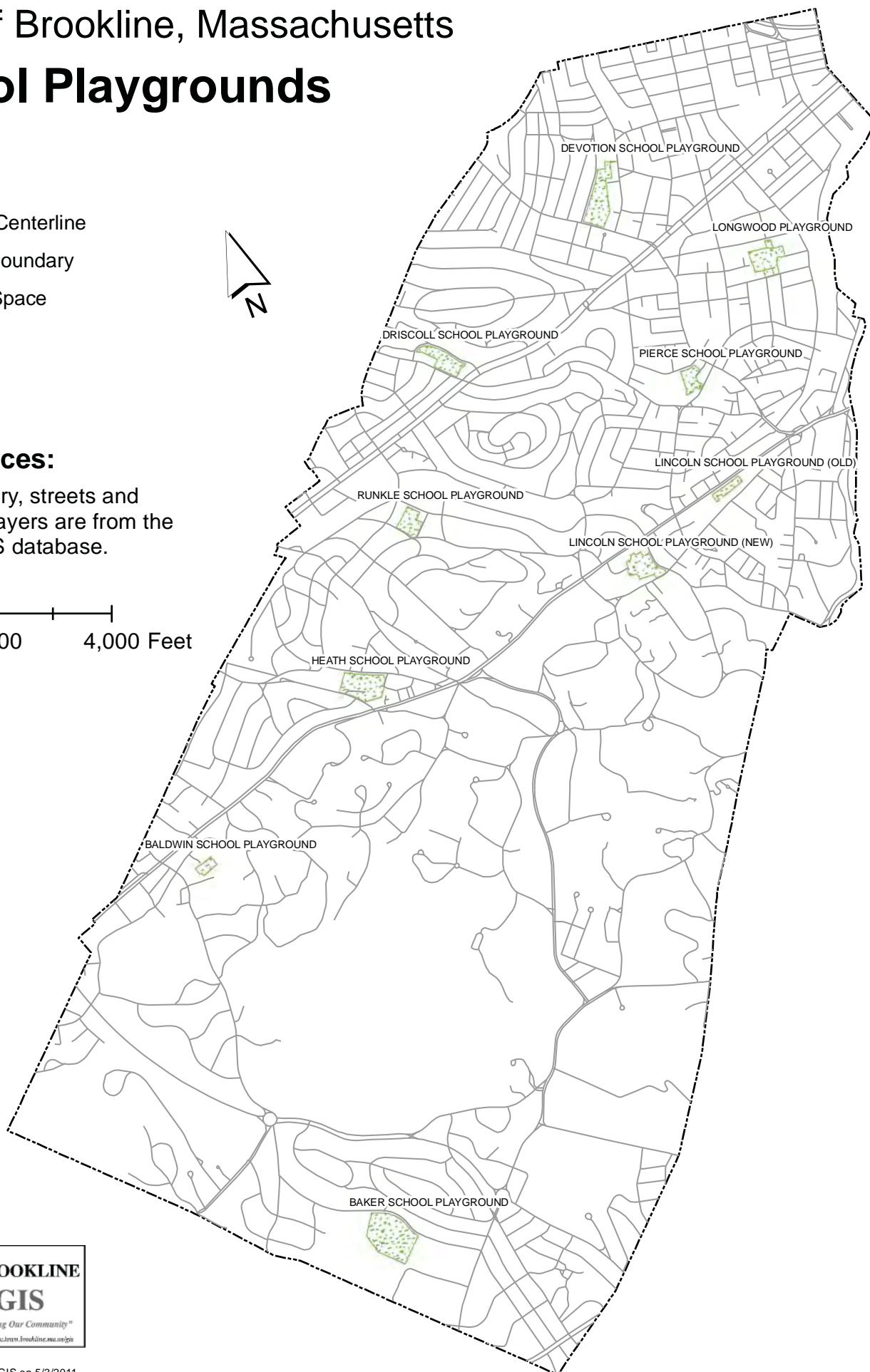
-  Street Centerline
-  Town Boundary
-  Open Space



Data Sources:

Town boundary, streets and open space layers are from the Brookline GIS database.

0 2,000 4,000 Feet



F. SCHOOL PLAYGROUNDS

Baker School Playground

Category	School Playground
Size	11.27 acres
Protection	None
Manager	Brookline DPW, Parks and Open Space Division
Location	Beverly Road
Precinct	16
Inventory Date	11/01/04, revised 2/1/05
Vicinity	Located adjacent to D. Blakely Hoar Sanctuary in a single and multi-family neighborhood



OVERVIEW

Baker School Playground includes significant grade changes. The highest point is in the front playground and field area, with a steep drop to the tennis court. Mature oaks and a garden are located at the front of the property. The recreational facilities include 5 tennis courts, a small play area, one and one-half basketball courts, and a softball infield. The wooded hillside behind the fields and the tennis courts are adjacent to the D. Blakely Hoar Conservation Area.

PARK HISTORY

This property was purchased in 1935 in conjunction with the building of the Baker School. In 1949, the Town constructed five tennis courts. The playground was renovated in 1999-2000. The tennis courts were resurfaced in 2004.

DEED/TITLE/RESTRICTIONS

The land was acquired in 1935 as a donation/ bequest from its original owner, Management Corp. No restrictions apply to this property.

Baldwin School Playground

Category	School Playground
Size	1.25 acres
Protection	Article 97, NR, SR
Manager	Brookline DPW, Parks and Open Space Division
Location	Heath Street
Precinct	15
Inventory Date	10/26/04, revised 2/1/05
Vicinity	Abuts Soule Recreation Center at the back of Baldwin School



OVERVIEW

This park, associated with Baldwin School, shares one entrance and a parking lot with the Soule Recreation Center. The property is defined by its rolling topography, mature oaks over expansive lawn, and considerable variation between highest and lowest elevation. The playground includes two fenced tot lots, sand boxes, and swings.

PARK HISTORY

In 1898, architect George F. Johnson designed a two-story fire station to stand on the land the Town had purchased the year before at the corner of Heath and Oak Streets. This lot became the site of the Baldwin School and Chestnut Hill Library (no longer extant).

DEED/TITLE/RESTRICTIONS

The Town bought 53,655 square feet of the park from the Rivers School in 1941 for \$3,500.00. Deed research conducted in 1960 found this information which is confirmed by land plans. The deed was not located during the 2003 research. The Town bought a parcel of 51,726 square feet from Mary McCormack in 1871. Another land parcel of 12,155 square feet was bought from John & Margaret O'Handley in 1898. There are no known restrictions on the property. It is listed on the State and National Register of Historic Places.

Devotion School Playground

Category	School Playground
Size	6.72 acres
Protection	None
Manager	Brookline DPW, Parks and Open Space Division
Location	Devotion Street
Precinct	8
Inventory Date	10/13/04, revised 2/1/05
Vicinity	Surrounded by single and multi-family homes and the school building



OVERVIEW

This is a complicated site with a youth baseball field, 3 basketball courts, 3 tennis courts, play equipment, a historic house, a large school, and a streetscape with game tables and benches. This area is heavily used and acts as a successful gathering area with a tot lot, benches, game tables, and a community bulletin board. A portion of the playground extends behind residences on Stedman Street to link up with a path from Babcock Street.

PARK HISTORY

The Town acquired this land as part of the acquisition of the school in 1891. In the mid-1890s, a portion of it served as the nursery for the Tree Planting Committee. The Department of Public Works kept a stable here and a firehouse was located here from 1893 to 1965. It became a multiple play area with playground equipment, paddle tennis, basketball, softball, roller-skating, and ice-skating. In 1965, the site was improved and the fire station was demolished. The Town renovated the playground in 1999.

DEED/TITLE/RESTRICTIONS

The Town acquired 296,931 square feet of the property from Nehum Smith. This deed was not located during the 2003 research, but was part of the 1960 findings and is confirmed by land plans. Devotion Street was extended through this property for firehouse access to Stedman Street and then abandoned to enlarge the park when the firehouse was abandoned. The firehouse was located on 10,000 square feet of this property, which has now been absorbed by the park grounds. Another 27,720 square feet was purchased from Bouve-Boston School of P.E. in 1948 for \$8,600. There are no known restrictions on the land.

Driscoll School Playground

Category	School Playground
Size	4.03 acres
Protection	None
Manager	Brookline DPW, Parks and Open Space Division
Location	Washington Street
Precinct	13
Inventory Date	11/02/04, revised 2/1/05
Vicinity	Surrounded by commercial buildings, and apartments, near Beacon St.



OVERVIEW

Renovated in 1993 and again in 2009, the park includes 2 tennis courts, a play area with play equipment for all ages, and a field that is used intensely during recess time. The school is located on a slope, while the playground is flat.

PARK HISTORY

The Driscoll playground is the site of four houses that were razed in 1955. Additions were made in 1929, 1953, and 1979. The park was renovated in 1993, and the field was renovated in 2001. In 2009, the play area was expanded and rubberized surfacing was added, in conjunction with the addition of new handi-capped accessible play equipment for ages 2 – 5. New shade trees were also added at this time and space provided for donations of new seating in the future. The new play equipment will complement the existing equipment for ages 5 – 12, and will provide a unique play experience for special needs children from Driscoll School as well as the larger community.

DEED/TITLE/RESTRICTIONS

The Town acquired 24,584 square feet from Henry W. Estabrook; 36,000 square feet from James B. Bell; 23,129 square feet from Daniel Dewar; and 23,129 square feet from Brookline Savings Bank in 1910. No known restrictions applied to these lands. Another 50,333 square feet was purchased from A. Wolfman, H. & H. Crawford, M.Harris, A & C Barr in 1954 for \$125,000.

Heath School Playground

Category	School Playground
Size	6.51 acres
Protection	None
Manager	Brookline DPW, Parks and Open Space Division
Location	Eliot Street
Precinct	14
Inventory Date	10/13/04, revised 2/1/05
Vicinity	Direct access to Boylston Street, single-family houses around two sides of the park



OVERVIEW

This playground is lined with uniformly mature oaks. The playground slopes from the rear to the front of the property. There is a planted courtyard in the school atrium. Currently the playground has landscaping, basketball half-court, an informal playing field and two areas of playground equipment. The slope on the western side of the school is a favorite neighborhood sledding spot. It was renovated in 1996.

PARK HISTORY

In 1902, the Town bought the Reed lot at the corner of Boylston and Reservoir Lane for a school. The school was torn down and replaced by the new Heath School in 1958.

DEED/TITLE/RESTRICTIONS

The Town purchased the property from Eben W. Reed et al in 1902 with no restrictions. It was sold as two parcels, with 520 square feet taken for Boylston Street widening. One parcel as 22,279 square feet and the other was 6 acres. Deed totals 283,639 square feet approximately, but 1900 land atlas sets land as 284,552 square feet (factoring in Boylston widening). 15,448 square feet was added from Aqueduct location bringing the 1927 property to 300,000 square feet. 31700 square feet was taken for Fire Station 4 leaving 268,300 square feet in 1930. Size changed to current size in 1972 with the abandonment of part of Eliot Street for parking and a bus entrance to the school.

Longwood Playground

Category	School Playground
Size	4.99 acres
Protection	Article 97
Manager	Brookline DPW, Parks and Open Space Division
Location	Longwood and Francis Streets
Precinct	3
Inventory Date	11/02/04, revised 2/1/05
Vicinity	Located in single and multi-family neighborhood



OVERVIEW

Longwood Playground is the school playground for Lawrence School. Situated in a bowl, the perimeter of Longwood Playground is lined with mature trees. The slopes of the land dictate the location of the field, and all other facilities are located around the field. There are many pleasant seating areas throughout the park. During the week, the park serves as the venue for the Lawrence School's recess, physical education and after-school programs. The school does not own the park. The park is developed with 2 separate play areas, one designed for school age children and the other for toddlers. Three tennis courts are located at the eastern edge of the playground. Two short combination softball and youth baseball infields are provided. A well-developed pedestrian path system exists around the field.

PARK HISTORY

The property was a deep marsh that was filled in, taking many years to settle. Olmsted and Eliot were hired to improve it in 1895. In 1928, Town Meeting authorized the Selectmen to petition the General Court to allow a small area of the playground to be taken for the school building. A tennis field house was constructed in 1929.

DEED/TITLE/RESTRICTIONS

Samuel McLean transferred 57,031 square feet of the property to the Town in 1873. The Town purchased 170,099 square feet from Henrietta W. Thomas in 1891 and another 27,629 square feet from Charles H. Stearns et. al. in 1898 with the stipulation that "no building shall be placed within 20 feet...no building of a value less than \$45,000, no apartment house, no building for carrying on any mechanical trade or for manufacturing purposes." The Town acquired 18,150 square feet of the property from Knights of Columbus/ Building Corporation in 1959. Original deed was not available, only a duplicate certificate of Title from 9/30/1977 was available.

Pierce School Playground

Category	School Playground
Size	2.37 acres
Protection	Article 97
Manager	Brookline DPW, Parks and Open Space Division
Location	School Street
Precinct	7
Inventory Date	11/02/04, revised 2/1/05
Vicinity	Enclosed by apartment buildings and parking lot on the west and housing on the north and east



OVERVIEW

The park has an upper level with play equipment and a lower level with a ball field, with a steep grassed slope between. The playground and field are located behind residences along School Street. The playground is enclosed by apartment buildings and their parking lot on the west, housing on the east and north. This green space serves as the school yard for the Pierce School which connects to the site by means of a pedestrian bridge over School Street. The school does not own the playground. The field is used extensively for youth baseball during the spring. The playground also includes basketball court, play area, tot lot, seating area, and spray pool.

PARK HISTORY

This property was purchased, taken, and given in 6 separate plots to serve as a playground.

DEED/TITLE/RESTRICTIONS

The Town purchased 11,304 square feet of land from Charles Leavitt with no restrictions in 1927 and Mr. Leavitt donated 1996 square feet with no restriction the same year. Fannie Hall Fegan donated 36,575 square feet of land in 1927 and Anna M. & William J. Ward donated some land in 1928 to the Town with the "plan of land to be conveyed to the Town of Brookline for the Pierce School Playground." In 1951, the Town acquired another 29,306 square feet from Trustees of Fannie Hall Fegan and another 19,487 square feet from Jacob Ditch in 1962 to be developed "for recreational, school, playground purpose."

Runkle School Playground

Category	School Playground
Size	3.05 acres
Protection	None
Manager	Brookline DPW, Parks and Open Space Division
Location	Clinton Road
Precinct	12
Inventory Date	11/02/04, revised 2/1/05
Vicinity	In a single-family neighborhood, surrounded by neighborhood streets and school



OVERVIEW

The front entrance of the school includes a memorial bench, Japanese lantern, and an amphitheater used for school ceremonies. The playground descends through three levels, the first level is comprised of play equipment as is the second, while the third level contains an expansive lawn. A large bituminous play area separates the rear of the school from the lawn.

PARK HISTORY

Land for the playground at Runkle School was purchased in 1903. Renovation of the play area started in 1999 with additional improvements to play equipment implemented in 2000.

DEED/TITLE/RESTRICTIONS

The Town purchased 50,000 square feet for the property with no restrictions in 1895 and another 46,389 square feet in 1903 "for playground use" from Lisette De Wolf Rotch. Deed information came from 1960 deed research. Another 36,699 square feet was purchased from the same person in 1908 with the stipulation that "no building within 25 ft. of Chesham Road, and on Buckminister Street no buildings under \$8,000 in cost shall be erected, manure shall be kept covered at all times, etc."

William H. Lincoln School Playground (New)

Category	School Playground
Size	4.24 acres
Protection	NR, SR
Manager	Brookline DPW, Parks and Open Space Division
Location	Kennard Road
Precinct	5
Inventory Date	10/12/04, revised 2/1/05
Vicinity	Surrounded by single-family houses, the Old Burying Ground; one block away from Boylston Street



OVERVIEW

Two playground areas are confined within a small amount of square footage. Beyond the school the grounds open up into a large, open sloped lawn and a big terrace located at the side of the school. The perimeter of the lawn area is an old, charming brick wall some of which has recently been restored in 2005.

PARK HISTORY

The New Lincoln School was established as a Brookline school in 1969. It is located on the site of the Hill-Kennard-Ogden House (known as "The Maples" in the 1890s). The site was occupied by several private schools until the late 1960's when the old Hill-Kennard place was bought by the Brookline School Department. The new school and grounds were completed in 1994 and include extensive play structures and a multi-use field. The property is located within the Town Green Historic District and is listed on the State and National Register of Historic Places.

DEED/TITLE/RESTRICTIONS

The Town acquired the property as two parcels from Park School Corporation for \$400,000 in 1970 "for the purpose of the public schools."

William H. Lincoln School Playground (Old)

Category	School Playground
Size	1.51 acres
Protection	None
Manager	Brookline DPW, Parks and Open Space Division
Location	194 Boylston Street
Precinct	5
Inventory Date	10/26/04, revised 2/1/05
Vicinity	By the side of the school building, 60 feet above the street level; right by Boylston Street



OVERVIEW

There is a small playground area located next to the building, which now serves as a temporary location for schools or Town offices during construction.

PARK HISTORY

The first Lincoln School was dedicated in 1888. In 1890, the Town bought the lot next door for a new building and a playground. The old schools were razed in 1931 and the new school constructed in 1932. The building is now used as a back-up facility when other Town buildings are under construction.




DEED/TITLE/RESTRICTIONS

The Town acquired 35,244 square feet of the property from Sarah D. and Susan B. Clark in 1886. It added another 20,705 square feet from Alfred Winsor and Horace D. Chaplin, executors of the will of Edward S. Philbrick, in 1890. Both parcels had the stipulation that “no stable to be erected hereon for 25 years.”

Town of Brookline, Massachusetts

Cemeteries

Legend

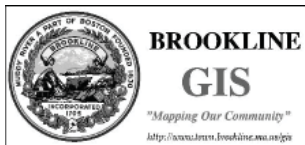
-  Street Centerline
-  Town Boundary
-  Open Space



Data Sources:

Town boundary, streets and open space layers are from the Brookline GIS database.

0 2,000 4,000 Feet



G. CEMETERIES

The Old Burying Ground

Category	Cemetery
Size	1.54 acres
Protection	NR, SR
Manager	Brookline DPW, Parks and Open Space Division
Location	Walnut Street
Precinct	15
Inventory Date	N/A
Vicinity	Near Route 9, surrounded by a mix of both residential and commercial buildings



OVERVIEW

Brookline's first cemetery, consecrated in 1717. Many past prominent citizens of the Town are buried here.

Holyhood Cemetery

Category	Cemetery
Size	36.2
Protection	NR, SR
Manager	Private, Non-Profit
Location	Heath Street
Precinct	15
Inventory Date	N/A
Vicinity	Adjacent to Beaver Country Day School, surrounded by single-family homes

OVERVIEW

The cemetery was founded in 1857 by the Catholic parishes of Brookline and Brighton and is on the National Register of Historic places.

Walnut Hills Cemetery

Category	Cemetery
Size	45.26 acres
Protection	NR, SR
Manager	Brookline DPW, Parks and Open Space Division
Location	Newton Street
Precinct	15
Inventory Date	N/A
Vicinity	Located between Allandale Farm and Putterham Branch Library



OVERVIEW

The park-like setting with mature trees and puddingstone outcrops makes this area an attraction for walkers and birders. Many past prominent citizens, including Trinity Church architect H.H. Richardson, are buried here.

H. GOLF COURSE

Robert T. Lynch Municipal Golf Course at Putterham Meadows

Category	Golf Course
Size	119.90 acres
Protection	Article 97
Manager	Brookline Recreation Department
Location	1281 West Roxbury Parkway
Precinct	15
Inventory Date	10/27/04, revised 2/1/05
Vicinity	Located near the Country Club and Pine Manor College



OVERVIEW

The 18-hole golf course is the largest Town-owned green space. In addition to the golf course, the property includes Putterham Woods and wetlands. The property also contains a putting green, practice chipping green, and teaching areas. The club house has an administrative office, a large foyer, sandwich bar with kitchen, game room, and a pro shop.

PARK HISTORY

The golf course was designed and built by Stiles and Van Kleek during the Depression and opened in 1933. Much of the property was historically a wetland with drainage problems. In 2001, the Brookline Golf Club at Putterham Meadows was renamed the Robert T. Lynch Municipal Golf Course in honor of Robert T. Lynch, and his life-long service and commitment to the Town of Brookline's recreation programs, including working for the Town for 35 years, including as the Director of Recreation, coaching Brookline Pop Warner and Brookline High School Football for over twelve years, and serving as a Town Meeting member. In 2010, portions of a stream bank at the golf course were restored, and a golf cart stream crossing and retaining walls were removed to improve drainage and stream function. A larger drainage-related project is planned for the future.

DEED/TITLE/RESTRICTIONS

The Town purchased the property with no known restrictions. It was designated park land in 1907.

I. AGRICULTURAL AND RECREATION LAND

Allandale Farm

Category	Agriculture
Size	70.11 acres
Protection	None
Manager	Private
Location	Allandale Road
Precinct	15
Inventory Date	10/27/04, revised 2/1/05
Vicinity	Located near The Country Club and Pine Manor College



OVERVIEW

One of the oldest farms in continuous operation in Massachusetts, Allandale cultivates its land organically and operates a farmstand. The fields and wetlands provide valuable wildlife habitat. The property is located in the Charles-to-Charles Corridor. Because it is assessed under G.L. C.61A, the Town has first right-of-refusal on any sale.

The Country Club

Category	Recreation
Size	230.76 acres
Protection	None
Manager	Private
Location	Clyde Street
Precinct	15
Inventory Date	10/27/04, revised 2/1/05
Vicinity	Located near The Country Club and Pine Manor College.




OVERVIEW

The largest single area of open space in Brookline, The Country Club connects to Robert T. Lynch Golf Course at Putterham Meadows. In the past, agreements were made with the Club to allow residents to use parts of the course for cross-country skiing. Assessed under Chapter 61B as recreation land, the Town has first right-of-refusal on any sale.

Town of Brookline, Massachusetts

Conservation Restrictions

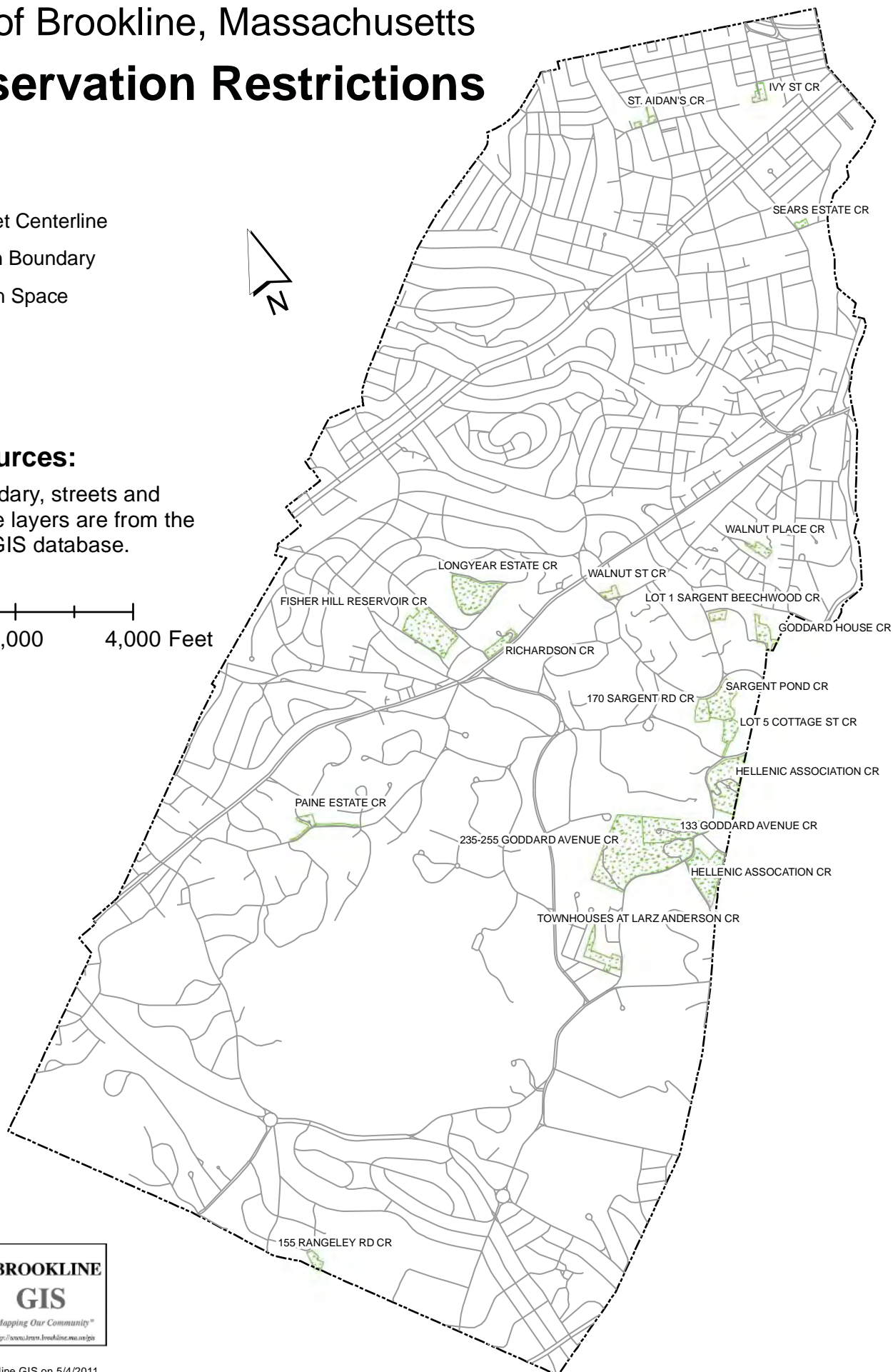
Legend

-  Street Centerline
-  Town Boundary
-  Open Space

Data Sources:

Town boundary, streets and open space layers are from the Brookline GIS database.

0 2,000 4,000 Feet



J. CONSERVATION RESTRICTIONS

SARGENT POND

Size 5.00 acres
Manager Sargent Road Trust
Location Sargent Road
Grantor Sargent Road Trust
Year Granted 1973

HELLENIC ASSOCIATION

Size 1.20 acres
Manager Hellenic Association of Boston
Location 162 Goddard Avenue
Grantor Hellenic Association of Boston
Year Granted 1977

WALNUT PLACE

Size 1.20 acres
Manager Browne et al.
Location 55-100 Walnut Place
Grantor Kingsbury Browne, Jr. et al.
Year Granted 1979

235-255 GODDARD AVENUE

Size 11.69 acres
Manager Park School
Location 235-255 Goddard Avenue
Grantor Mary duPont Faulkner
Year Granted 1980

TOWN HOUSES AT LARZ ANDERSON

Size 3.21 acres
Manager Townhouses at Larz Anderson Trust
Location 275 Goddard Avenue
Grantor Townhouses at Larz Anderson
Year Granted 1980

SEARS ESTATE

Size 0.51 acres
Manager Various
Location 287 Kent Street
Grantor Parencorp
Year Granted 1983

PAINE ESTATE

Size 1.74 acres
Manager Various
Location 325-335 Heath Street
Grantor Heath Limited Partnership
Year Granted 1986

133 GODDARD AVENUE

Size 8.41 acres
Manager H. Kimball & Nancy W. Faulkner
Location 133 Goddard Avenue
Grantor H. Kimball & Nancy W. Faulkner
Year Granted 1990

LONGYEAR ESTATE

Size 6.00 acres
Manager Longyear Properties, L.L.C.
Location Seaver Street
Grantor Longyear Properties, L.L.C.
Year Granted 1998

GODDARD HOUSE

Size 2.30 acres
Manager Goddard House
Location 201 Huntington Ave, J.P.
Grantor Goddard House
Year Granted 2001

IVY STREET, MAP 9, LOT 1

Size 0.029 acres
Manager John J. and Shiyong Roh Weiter
Location Ivy Street
Grantor John J. and Shiyong Roh Weiter
Year Granted 2001

IVY STREET, MAP 12, LOT 4A

Size 0.05 acres
Manager Kenneth and Ruth C. Scheer
Location Ivy Street
Grantor Kenneth and Ruth C. Scheer
Year Granted 2001

153 RANGELEY ROAD

Size 0.605 acres
Manager Creative Development Associates LLP
Location 153 Rangeley Road
Grantor Creative Development Associates LLP
Year Granted 2001

SAINT AIDAN'S

Size 0.48 acres (4 areas total)
Manager St. Aidan's Realty Trust
Location Intersection of Freeman Street, Pleasant Street, and Crowninshield Road
Grantor Lisa B. Alberghini, Trustee of St. Aidan's Realty Trust
Year Granted 2005

J. CONSERVATION RESTRICTIONS

(Continued)

170 SARGENT ROAD

Size 1.82 acres
Manager Summera Realty Trust
Location 170 Sargent Road
Grantor Andrew J. Ley, Trustee of
Summera Realty Trust
Year Granted 2008

FISHER HILL RESERVOIR

Size 9.65 acres
Manager Brookline DPW, Parks and Open
Space Division
Location 100 Fisher Avenue
Grantor Town of Brookline
Year Granted 2011

K. BROOKLINE CONSERVATION LAND TRUST

WALNUT STREET

Size 1.01 acres
Manager Brookline Conservation Land Trust
Location Walnut and Warren Streets
Year Property Acquired by BCLT 1981 (from Marion Parson Alden)
Protection Conservation Restriction
Grantor Trustees of Brookline
Conservation Land Trust
Year Granted 2010

LOT 1 SARGENT BEECHWOOD

Size 0.92 acres
Manager Brookline Conservation Land Trust
Location Sargent and Beechwood Roads
Year Property Acquired by BCLT 1996 (from Gertrude H. Donald)
Protection Conservation Restriction
Grantor Trustees of Brookline
Conservation Land Trust
Year Granted 2010

LOT 5 COTTAGE STREET

Size 2.02 acres
Manager Brookline Conservation Land Trust
Location Cottage Street
Year Property Acquired by BCLT 1998 (from Clarita H. Bright)
Protection Conservation Restriction
Grantor Trustees of Brookline
Conservation Land Trust
Year Granted 2010




RICHARDSON PROPERTY

Size 1.83 acres
Manager Margaret Richardson
Location Boylston Street (Route 9) opposite
Brookline Reservoir
Protection Conservation Restriction
Grantor Margaret Richardson
Year Granted 2003

Town of Brookline, Massachusetts

Traffic Circles & Other

Legend

-  Street Centerline
-  Town Boundary
-  Open Space

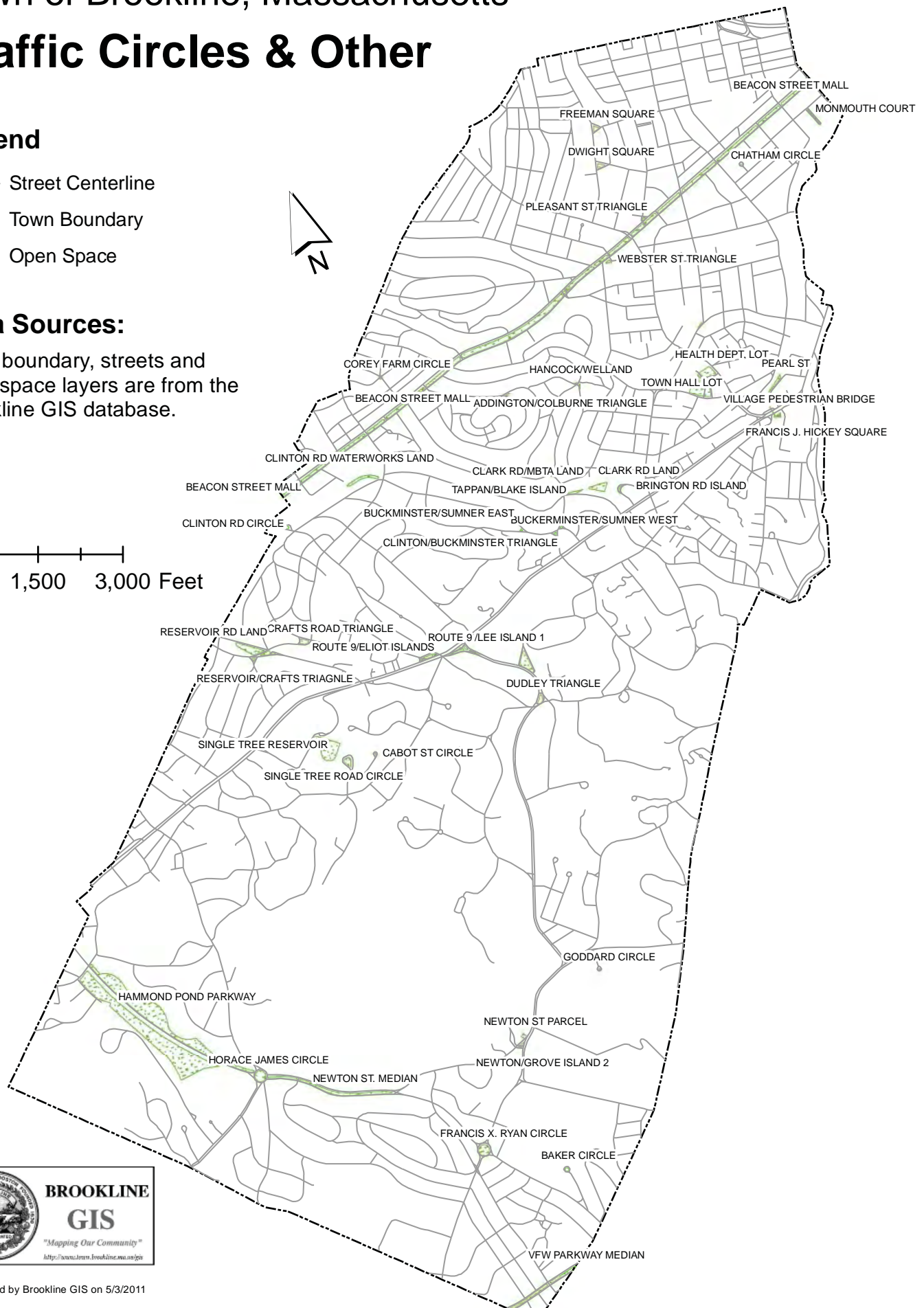
Data Sources:

Town boundary, streets and open space layers are from the Brookline GIS database.

0 1,500 3,000 Feet



Map created by Brookline GIS on 5/3/2011



L. TRAFFIC MEDIANS, ISLANDS, AND OTHER PROPERTIES

Beacon Street Mall

Category	Medians and Traffic Islands
Size	14.25 acres
Protection	NR, SR
Manager	Brookline DPW, Parks and Open Space Division
Location	Beacon Street
Precinct	1, 3, 8, 9, 10, 11, 12, 13, 14
Inventory Date	11/06/04, revised 2/1/05
Vicinity	Median of Beacon Street



OVERVIEW

Located in the most urban area of Brookline, the mall acts as a median of Beacon Street carrying the MBTA Cleveland Circle trolley line down the middle. The mall consists of landscaped islands and parking lots abutting the MBTA right-of-way.

PARK HISTORY

Beacon Street was laid out as a narrow country lane in 1850-1851 to link North Brookline to Boston. Forty years later Frederick Law Olmsted's design transformed it into a grand boulevard with the second electric trolley line in the country (and the oldest still in operation). Improvements to plantings, lighting and street furniture are planned for the near future as part of the Beacon Street enhancement project.

DEED/TITLE/RESTRICTIONS

It is listed on the State and National Register of Historic Places.

Brington Road Island

Category	Medians and Traffic Islands
Size	0.08 acres
Protection	None
Manager	Brookline DPW, Parks and Open Space Division
Location	Brington Road
Precinct	6
Inventory Date	11/04/04 revised 2/1/05
Vicinity	Residential neighborhood.



OVERVIEW

A small landscaped open space originally laid out by Fredrick Law Olmsted in the 1889 "Plan for Brookline Hills." Located in a residential setting, the island has a small patch of perennial shrubs. It does not have enough area for physical public use.

PARK HISTORY

No information is available.

DEED/TITLE/RESTRICTIONS

No information located.

Corey Farm Circle

Category	Medians and Traffic Islands
Size	0.06 acres
Protection	None
Manager	Brookline DPW, Parks and Open Space Division
Location	Intersection of Williston, Evans, and Downing Roads
Precinct	13
Inventory Date	11/04/04, revised 2/1/05
Vicinity	Residential neighborhood



OVERVIEW

The traffic circle was installed in 1999 as part of a traffic calming effort. The circle with shrubs is surrounded by single family houses.

PARK HISTORY

No information is available.

DEED/TITLE/RESTRICTIONS

No information located.

Dudley Triangle

Category	Medians and Traffic Islands
Size	0.81 acres
Protection	Article 97
Manager	Brookline DPW, Parks and Open Space Division
Location	Intersection of Dudley and Lee Streets
Precinct	14
Inventory Date	11/04/04, revised 2/1/05
Vicinity	Residential neighborhood adjacent to the Brookline Reservoir and the approach road to Route 9



OVERVIEW

The triangle with mature trees and open lawn act as a landscaped park.

PARK HISTORY

In the 1800s, this property was a Town gravel pit.

DEED/TITLE/RESTRICTIONS

No information located.

Dwight Square

Category	Medians and Traffic Islands
Size	0.16 acres
Protection	Article 97
Manager	Brookline DPW, Parks and Open Space Division
Location	Intersection of Dwight and Babcock Streets
Precinct	8
Inventory Date	11/04/04, revised 2/1/05
Vicinity	Located in a residential neighborhood; one block from Devotion School playground



OVERVIEW

This is a small landscaped parcel surrounded by residential buildings. It has a mix of shade and flowering trees, flowering shrubs and ground cover, and seating.

Eliot and Crafts Road Triangle

Category	Medians and Traffic Islands
Size	0.26 acres
Protection	None
Manager	Brookline DPW, Parks and Open Space Division
Location	Intersection of Eliot Street and Crafts Road
Precinct	13
Inventory Date	12/08/05
Vicinity	Residential Neighborhood near the Eliot Recreation Center



OVERVIEW

The triangle is located in a residential neighborhood, one block from the Eliot Recreation Center. At one time there was a formal rose garden at the corner where Crafts Road meets Eliot Street.

Francis J. Hickey Square

Category	Medians and Traffic Islands
Size	0.06 acres
Protection	NR, SR
Manager	Brookline DPW, Parks and Open Space Division
Location	Intersection of Harvard and Washington Streets
Precinct	6
Inventory Date	11/02/04, revised 2/1/05
Vicinity	Commercial land use



OVERVIEW

The square is located in a busy urban area with a commemorative plaque and planters. It is a highly used public space.

DEED/TITLE/RESTRICTION

It is listed on the State and National Register of Historic Places.

Francis X. Ryan Circle

Category	Medians and Traffic Islands
Size	0.71 acres
Protection	NR, SR
Manager	Brookline DPW, Parks and Open Space Division (owned by Commonwealth of Massachusetts)
Location	Intersection of West Roxbury Parkway and Grove Street
Precinct	16
Inventory Date	11/02/04, revised 2/1/05
Vicinity	Roundabout of busy streets next to Temple Emeth, a shopping area, and residences



OVERVIEW

This landscaped island is also known as Putterham Circle.

PARK HISTORY

No information is available.

DEED/TITLE/RESTRICTIONS

It is listed on the State and National Register of Historic Places.

Freeman Square

Category	Medians and Traffic Islands
Size	0.15 acres
Protection	Article 97
Manager	Brookline DPW, Parks and Open Space Division
Location	Intersection of Freeman and Babcock Streets
Precinct	8
Inventory Date	11/04/04, revised 2/1/05
Vicinity	Located in a residential neighborhood; one block from Dwight Square



OVERVIEW

This is a small landscaped parcel surrounded by residential buildings.

PARK HISTORY

The park was renovated in the fall of 2005, with new irrigation, plantings, a seat wall and benches, and a secondary path.

DEED/TITLE/RESTRICTIONS

No information located.

Hammond Pond Parkway

Category	Medians and Traffic Islands
Size	25.66 acres
Protection	Article 97
Manager	Commonwealth of Massachusetts
Location	Hammond Pond
Precinct	15
Inventory Date	11/01/04, revised 2/1/05
Vicinity	Busy road lined with trees

OVERVIEW

This busy street, some of which is adjacent to woods. The property is part of the MWRA parkway system.

Horace James Circle

Category	Medians and Traffic Islands
Size	0.71 acres
Protection	None
Manager	Brookline DPW, Parks and Open Space Division (owned by Commonwealth of Massachusetts)
Location	Intersection of Hammond Pond and West Roxbury Parkways
Precinct	15
Inventory Date	11/01/04 revised 2/1/05
Vicinity	Busy roads lined with thick vegetation



OVERVIEW

This is a landscaped island at the intersection of Hammond Parkway, West Roxbury Parkway, Newton Street, Hammond Street, and Lagrange Street.

PARK HISTORY

The Massachusetts Horticultural Society awarded a Blue Ribbon Certificate to the Tree Planting Committee in 1937 for its implementation of Sidney Shurcliff's landscape design.

Pleasant Street Triangle

Category	Medians and Traffic Islands
Size	0.05 acres
Protection	NR, SR
Manager	Brookline DPW, Parks and Open Space Division
Location	Pleasant Street
Precinct	10
Inventory Date	11/04/04 revised 2/1/05
Vicinity	Located in a commercial area along Beacon Street



OVERVIEW

The triangle located north of Coolidge corner on Beacon Street, consists of planters located on paved surface. It is heavily used by pedestrians and functions as a small urban park.

DEED/TITLE/RESTRICTIONS

It is listed on the State and National Register of Historic Places.

Single Tree Road Circle

Category	Medians and Traffic Islands
Size	0.33 acres
Protection	None
Manager	Brookline DPW, Parks and Open Space Division
Location	Single Tree Road
Precinct	15
Inventory Date	11/04/04, revised 2/1/05
Vicinity	End of a cul-de-sac in residential neighborhood



OVERVIEW

The property is located at the end of a dead end road in a residential neighborhood.

PARK HISTORY

No information is available.

DEED/TITLE/RESTRICTIONS

No information located.

VFW Parkway Median

Category	Medians and Traffic Islands
Size	1.17 acres
Protection	NR, SR
Manager	Brookline DPW, Parks and Open Space Division (owned by Massachusetts DCR)
Location	VFW Parkway
Precinct	16
Inventory Date	11/04/04, revised 2/1/05
Vicinity	Residential neighborhood



OVERVIEW

The Veterans of Foreign Wars Parkway has a linear median lined with mature oak trees and edged with granite curb.

PARK HISTORY

No information is available.

DEED/TITLE/RESTRICTIONS

It is listed on the State and National Register of Historic Places.

Webster Street Triangle

Category	Medians and Traffic Islands
Size	0.08 acres
Protection	NR, SR
Manager	Brookline DPW, Parks and Open Space Division
Location	Webster Street
Precinct	10
Inventory Date	11/04/04, revised 2/1/05
Vicinity	Commercial and urban location in Coolidge Corner



OVERVIEW

The triangle was designed as part of the entry to the Marriott Hotel and is aesthetically designed with seating and planters. The site is heavily used by pedestrians and is located in an urban setting. It functions as a small urban park. The Marriott Hotel has an agreement with the Town to maintain the plantings.

PARK HISTORY

The new design replaced a former small gathering area with benches and a granite cobble planter.

DEED/TITLE/RESTRICTIONS

It is listed on the State and National Register of Historic Places.

West Roxbury Parkway

Category	Medians and Traffic Islands
Size	2.16 acres
Protection	NR, SR
Manager	Brookline DPW, Parks and Open Space Division, with assistance from Chestnut Hill Realty (owned by Commonwealth of Massachusetts)
Location	West Roxbury Parkway
Precinct	15
Inventory Date	11/05/04, revised 2/1/05
Vicinity	Median passing Robert T. Lynch Golf Course at Putterham Meadows and single-family houses



OVERVIEW

The parkway starting at Horace James Circle is part of Newton Street before the South Street intersection. The median is lined with mature trees and planted with shrubs. It exists as two parcels, the division occurring where Wolcott Road meets the parkway. The terrain of the median varies from steep slope to relatively flat.

PARK HISTORY

No information is available.

DEED/TITLE/RESTRICTIONS

It is listed on the State and National Register of Historic Places.

OTHER SMALL OPEN SPACES

Clark Road Land

Category	Medians, Traffic Circles, and Other
Size	0.66 acres
Protection	None
Manager	Brookline DPW, Parks and Open Space Division
Location	Clark Road
Precinct	6
Inventory Date	11/04/04, revised 2/1/05
Vicinity	Sandwiched between houses and MBTA right-of-way



OVERVIEW

The property is behind a residence and adjacent to MBTA subway line, and consists of fenced wooded area with very little active maintenance. It offers no physical or visual access to it and acts as a buffer zone between the subway line and the residential area.

PARK HISTORY

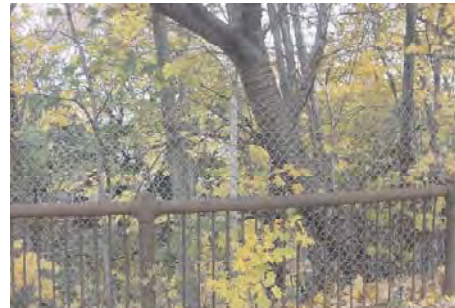
No information is available.

DEED/TITLE/RESTRICTIONS

No information located.

Clark Road, MBTA Land

Category	Medians, Traffic Circles, and Other
Size	0.2 acres
Protection	None
Manager	Brookline DPW, Parks and Open Space Division (owned by Commonwealth of Massachusetts)
Location	Clark Road
Precinct	6
Inventory Date	11/04/04, revised 2/1/05
Vicinity	Next to MBTA right-of-way; adjacent to Clark Road Land



OVERVIEW

This property is located on a very steep slope and enclosed by a fence. It lies adjacent to a bridge over the MBTA subway line. The steep slope restricts physical access to the site. It acts as a buffer to negotiate the change in grade at the bridge.

PARK HISTORY

No information is available.

DEED/TITLE/RESTRICTIONS

No information located.

Clinton Road Waterworks Land

Category	Medians, Traffic Circles, and Other
Size	0.53 acres
Protection	NR, SR
Manager	Brookline DPW, Parks and Open Space Division (owned by Commonwealth of Massachusetts)
Location	Clinton Road
Precinct	14
Inventory Date	11/04/04, revised 2/1/05
Vicinity	Connects to Clinton Path and to Waldstein Playground



OVERVIEW

The property is fenced off and behind a residence from Clinton Road with no public access.

DEED/TITLE/RESTRICTION

It is listed on the State and National Register of Historic Places.

Health Department Lot

Category	Medians, Traffic Circles, and Other
Size	0.74 acres
Protection	None
Manager	Brookline DPW, Parks and Open Space Division
Location	Beside Health Department building on Harvard Street
Precinct	6
Inventory Date	11/04/04
Vicinity	Located adjacent to Pierce School



OVERVIEW

Landscaped green space surrounds the Health Department building. The property with sloping ground is provided with drains to control storm water. Improvements are planned as part of the renovation of the Health Department Building and the Main Library/Town Hall Landscape Master Plan completed in 2005.

Newton Street Parcel

Category	Medians, Traffic Circles, and Other
Size	0.11 acres
Protection	Article 97
Manager	Brookline DPW, Parks and Open Space Division
Location	Newton Street
Precinct	15
Inventory Date	11/04/04 revised 2/1/05
Vicinity	Sandwiched between houses and Newton Street



OVERVIEW

The property is fenced and located on a sloping terrain along Newton Street with no public access.

PARK HISTORY

This land was part of the original site of the Putterham School. The school building was moved to Larz Anderson Park in 1965.

Reservoir Road Extension

Category	Medians, Traffic Circles, and Other
Size	0.092 acres
Protection	Article 97, NR, SR, LHD
Owner	Brookline DPW, Parks and Open Space Division
Location	Reservoir and Middlesex Roads
Precinct	13
Inventory Date	12/7/05
Vicinity	Residential neighborhood next to MBTA tracks



OVERVIEW

This was once the extension of Reservoir Road to a vehicular bridge over the Green Line MBTA tracks. The roadway was replaced with a pedestrian path and bridge with native plants surrounding it.

PARK HISTORY

Town Meeting in November of 2004 voted to discontinue a portion of Reservoir Road leading to the bridge over the MBTA tracks and designate the area for a park. This portion of the road had been out of use since 1978, when the road was closed due to the bridge being unsafe. The MBTA has since replaced the bridge with a new pedestrian-only bridge.

DEED/TITLE/RESTRICTIONS

It is listed on the State and National Register of Historic Places, as well as the Local Historic District Register.

Reservoir Road Land

Category	Medians, Traffic Circles, and Other
Size	0.98 acres
Protection	NR, SR, LHD
Owner	Brookline DPW, Parks and Open Space Division
Location	Unconstructed Reservoir Lane
Precinct	13
Inventory Date	11/04/04 revised 2/1/05
Vicinity	Isolated location



OVERVIEW

This wooded property is located at the intersection of Reservoir Road and unconstructed Reservoir Lane. It is a fenced property sloping down from the road level with no public access.

PARK HISTORY

No information is available.

DEED/TITLE/RESTRICTIONS

It is listed on the State and National Register of Historic Places and is within the Chestnut Hill North Local Historic District.

Single Tree Reservoir

Category	Medians, Traffic Circles, and Other
Size	2.76 acres
Protection	None
Manager	Brookline DPW, Parks and Open Space Division
Location	Behind Chestnut Hill Benevolent Association
Precinct	15
Inventory Date	11/04/04, revised 2/1/05
Vicinity	Located off of Route 9 and approach is adjacent to Chestnut Hill Benevolent Association



OVERVIEW

The site contains a large green water tank and is part of the Town's water distribution system. Public access to the property is restricted.

PARK HISTORY

No information prior to 2010 is available. In the fall of 2010, Town Meeting voted to amend the Zoning By-Law to create a new Renewable Energy Overlay District (Solar Overlay District) on the Single Tree Reservoir site, which allows ground-mounted solar photovoltaic panels to be potentially installed on the site in the future.

DEED/TITLE/RESTRICTIONS

No information located.

Weld Garden

*WELD GARDEN glows with crimson velvet flowers
And yellow flowers like the setting sun;
The fountain sings in silver, splashing showers;
Along the crannied tiles green mosses run.*

*Vines curl upon the slender marble figures
Until the west wind strips them to the sky
All naked: then they face the autumn rigors
Till snow clothes them in ermine by and by.*

*The hilltop seaward looks across the plain
Where fogs descend and where the salt sea shoals;
There in the rift the white sails cleave the main,
Hither and thither blown like human souls.*

Isabel Anderson

* "Weld" was Larz and Isabel Anderson's estate, currently Larz Anderson Park.

SECTION 6

COMMUNITY VISION

The Brookline community has expressed its open space values and preferences through a number of planning processes that have been closely related topic-wise. The plans that resulted include several that were published around the same time, the Brookline Comprehensive Plan 2005-2015, led by the Town's Department of Planning and Community Development; the Parks, Open Space and Recreation Master Plan, led by the Park and Recreation Commission and its staff, which was published in 2006; and the 2005 Open Space Plan, led by the Conservation Commission.

This plan complements the earlier plans and reiterates many of the same themes in terms of what is important to the community in terms of open space, as well as developing and incorporating new goals to tackle new challenges and reflect the community's needs. Through the three public forums and many working group meetings conducted with respect to the Open Space Plan, as well as through the surveys, numerous forums, meetings and hearings associated with the other three plans, the views and perspectives of a broad range of the Brookline community have been identified and inform the open space vision expressed here.

Brookline's ideal vision of its open space and recreation system reflects the diverse character that is present everywhere else in this community. Home to a working farm that has been in the same family since the 17th century, elegant estate properties from a bygone age, and two renowned Emerald Necklace Parks designed by Olmsted, Brookline highly prizes the grand, dramatic open spaces and natural areas that are rich in history as well as environmental values. Home as well to several bustling commercial areas ringed by residential neighborhoods, Brookline also values the balance of density and accessible open space, in the form of small parks, pedestrian and bicycle-friendly ways and public gathering spaces, that make for a vibrant community life in a more urban setting.

The Town must protect open space values across a broad range of settings in order to preserve and promote the particular character of Brookline that is so cherished here. This is the challenge for the Open Space Plan.

"The whole of this neighborhood of Brookline is a kind of landscape garden, and there is nothing in America of the sort, so inexpressibly charming as the lanes which lead from one cottage, or villa, to another. No animals are allowed to run at large, and the open gates, with tempting vistas and glimpses under the pendent boughs, give it quite an Arcadian air of rural freedom and enjoyment. These lanes are clothed with a profusion of trees and wild shrubbery, often almost to the carriage tracks, and curve and wind about, in a manner quite bewildering to the stranger who attempts to thread them alone; and there are more hints here for the lover of the picturesque in lanes than we ever saw assembled together in so small a compass."

Andrew Jackson Downing, *The Theory and Practice of Landscape Gardening*, 1841

SECTION 7

NEEDS ANALYSIS

I. RESOURCE PROTECTION NEEDS

A. Unprotected Open Space

Definition of Open Space

Discussions during the community forums and committee meetings for this Open Space Plan particularly emphasized the need for Brookline to act proactively to protect and/or acquire open space in Town. In addition to larger open spaces, there is great interest in protecting smaller spaces in developed areas that contribute to a sense of open space or green features that give respite or serve conservation values as a part of the built environment.

For this plan, the definition of open space draws on the new Brookline Conservation Restriction Policy. Open space is land that is substantially in a natural state or landscaped in such a manner as to provide some or all of the following open space values:

- a. Provides habitat for native plants and animals
- b. Can be sustained for conservation purposes in an undisturbed or minimally managed condition
- c. Protects water bodies or wetland resources
- d. Protects water quality or contributes to storm-water control
- e. Ensures that the land will remain in farming, forestry, or recreational use
- f. Preserves a scenic or historic view
- g. Protects significant trees
- h. Is adjacent to land with open space value
- i. Provides “green features” or environmental services in built and urbanized spaces
- j. Provides public benefits
- k. Contributes to the environment

The benefits of open space will be discussed throughout this plan. In addition to conservation and recreation values, open space will be increasingly important to Brookline as the climate changes. Vegetation, especially trees, helps cool the air through shading as well as evaporation, which can also decrease the urban heat island effect. Plants filter and clean the air, and also help capture storm-water runoff, which allows for water recharge and flood and erosion control. Open space can also increase habitat for migratory and breeding birds

and other wildlife impacted by climate change. Preserving open space, both larger and smaller spaces, is an important element in Brookline’s efforts to mitigate and adapt to climate change.

Publicly-accessible open space is also important for public health, as it encourages walking and outdoor activities, provides space for exercise and recreational activities, and can aid in mental health and well-being. Open space also mitigates air pollution and other potential environmental stressors to health.

Figure 6
Climate Change and Open Space

Open space is critical for minimizing, mitigating, and adapting to climate change.

- * *Trees and other vegetation cool the air significantly through evapotranspiration and intercepting runoff, shading, decreasing air pollution, and reflecting more sunlight than pavement and other dark surfaces.*
- * *Trees and other vegetation are carbon sinks - by using carbon dioxide in photosynthesis and incorporating carbon in their tissues, they keep significant amounts of this heat-trapping greenhouse gas out of the atmosphere.*
- * *Open space provides habitat, refuge and food for wildlife and habitat and resources for plants, particularly important as wildlife migrates, wildlife and plant ranges shift and habitat is lost due to changing climate conditions.*
- * *Open space mitigates flooding, droughts, and other extreme weather events that are likely to be exacerbated by climate change.*
- * *Maintaining open space requires less energy and greenhouse gas emissions than cooling, heating, and maintaining buildings and infrastructure.*

NEEDS ANALYSIS

Acquisition of Open Space

Open space has significant public benefit and acquisition of additional open space is needed in Brookline. The Parks, Open Space and Recreation Strategic Master Plan of 2006 recommended that, based on national standards of 10 acres of open space per 1,000 residents (see pgs. 242-243 in the Master Plan), Brookline should acquire 36 more acres. The Master Plan further proposed that approximately 50% of this, or 17 acres, should be dedicated to passive recreation and/or conservation uses.

Throughout the public meetings for this Plan it was clear there was a strong desire from the public for Brookline to develop a proactive planning process to enable the Town to act quickly should a parcel with significant open space potential become available for purchase or be at imminent risk of loss to development. There was also strong support for creating new open space when there are opportunities to do so, such as during redevelopment of private property or street improvements. Even small open spaces such as pocket parks, vegetated traffic islands and linear tree lawns can play a valuable role in the Town's overall mix of open spaces.

Among the needs are:

- Establishing criteria and priorities for open space acquisition;
- Planning for a range of funding sources;
- Reaching out to owners of significant open spaces to discuss potential protection of these open spaces;
- Proactively planning to promote protection of open spaces that are not feasible for Town acquisition;
- Creating new open space, especially in areas where there is little existing open space such as dense neighborhoods.

Special attention must also be paid to ensuring that there is a balance of types of open space maintained in Town. The Town needs to have an agreed-upon procedure for deciding which features would make any given property of particular value for Town needs, for example, whether a forested property or a wetland is of greater priority and why. There should also be agreement that the open space values that make a property a priority for acquisition should not be degraded or destroyed by the Town's subsequent use.

Table 5
**PRIORITY UNPROTECTED OPEN SPACE
Parcels of 5+ acres**

Allandale Farm
Beaver Country Day School
Bournewood
Chestnut Hill Benevolent Association
Dexter School
Hancock Village
Hellenic College
Holy Transfiguration
Northeastern University (Parson's Field)
Pine Manor
The Country Club

No Net Loss of Open Space

Brookline's 2005-2015 Comprehensive Plan set a goal of "no net loss" of open space Town-wide. This goal has also been stated in previous Open Space Plans, and in the Parks, Open Space and Recreation Strategic Master Plan. This concept should be discussed and defined in order for the Town to make decisions as to how it should be applied.

Significant Parcels Without Open Space Protection

The 2005 Open Space Plan specified thirteen large and significant parcels that should have priority for open space protection, whether through outright acquisition, conservation restrictions, or agreements for protection by other means. Eleven of these parcels are still available for open space protection (Table 5). The MWRA side of Fisher Hill has recently been acquired by the Town for use as parkland and open space. This parcel has been permanently protected by a conservation restriction. The Town side of Fisher Hill has been sold for development for mixed housing, with funds from the development being leveraged for the creation of the park across the street on the former MWRA side.

Protection of Privately-Owned Properties with Open Space Values

Scattered across Brookline are private properties that are undeveloped and serve open space values. If an owner were to express an interest in selling such a property to Brookline, the Town currently would not be able to act quickly. The Town

also does not have any protocol for reaching out to owners of property with open space value, to negotiate or encourage lasting conservation enhancements such as easements, bequeathals, or rights of first refusal.

Brookline should establish, proactively, a process and protocol for reaching out to property owners who may be interested in protecting their land or selling it to the Town as open space. When the Town is not able to purchase land, a conservation restriction should be considered.

Private land with natural resource values can be given protection while remaining in private ownership, by having a conservation restriction placed on part of the land. Owners are taxed at a lower rate for the land under restriction than for unrestricted land. Public access is not required, but if access is permitted, there is greater tax relief. The need for a conservation restriction policy was raised in several past open space plans. In December of 2008, the Board of Selectmen adopted a Conservation Restriction Policy, following approval by the Conservation Commission and the Board of Assessors. The Conservation Restriction Policy has set up a definitive framework for the acquisition of, and tax relief issues associated with, conservation restrictions.

In a resident survey, the 2006 Parks, Open Space and Recreation Strategic Master Plan found that Brookline residents strongly favored trails and walking paths in naturalized areas, as well as walkways in and between our parks and open spaces, and in developed areas (Table 2, page 15). Brookline needs more conservation restrictions on land with open space value, particularly parcels for which public access would meet the need for trails, walking paths, and greenways. For parcels where a conservation restriction is not possible or desirable, the Town could work with owners to protect the land using a variety of other conservation tools, for example purchase of development rights, bargain sale, limited development, family limited partnership, charitable remainder trust, or land donation.

Protection of Publicly-Owned Open Space

Article 97 of the Articles of Amendment to the Massachusetts Constitution establishes the right of the people to clean air and water, freedom from excessive and unnecessary noise, and the natural, scenic, historic and esthetic qualities of their environment. Land, easements or interests taken or

acquired for such public purposes are not to be disposed of or used for other purposes without a two-thirds vote of Town Meeting and a two-thirds roll call vote of both the Massachusetts Senate and House of Representatives.

Most of the land under control of the Park and Recreation Commission or the Conservation Commission is protected by Article 97. However, certain open space areas of Brookline do not have the protection of Article 97 (see inventory in Section 5). Unprotected public lands include many of our school yards and school playgrounds, and some small open lands, squares, medians and traffic circles.

Conservation Lands

Although all of our conservation areas have legal protection, they also require the protection of ongoing maintenance. Trail maintenance, removal of hazards, repair of kiosks, and ongoing care to counteract the wear and tear of heavy use and the potential impact of more extreme weather events in a changing climate, require the Town to make a commitment of sufficient funds.

Outreach to residents who may not know about or visit the Town's conservation sanctuaries is needed. In addition, there is a need for opportunities for residents and other visitors to share their appreciation and stewardship of these places. For example, this could happen through involvement with advocacy groups such as the Friends of Hall's Pond, and through engagement of non-traditional allies sharing similar concerns for community values.

Park Lands

Publicly-owned properties that are designated as parks are protected under Article 97. However, Brookline's parks for passive recreation and sections of our parks for active recreation include features which serve conservation values. These values are not granted specific conservation protection within those parks. Brookline should develop ways to specifically protect those parts of our parks that have habitat and conservation values. Brookline parks are heavily used, and in order to protect them, there is a continuing need to support and adequately fund their maintenance.

NEEDS ANALYSIS

School Yards

The school yards, school playgrounds, and parks used by Brookline schools for recess are not consistently protected. The Pierce School Playground and Longwood Playground, which is used by the Lawrence School, have Article 97 protection. The new Lincoln School is on the National Register of Historic Places and the Massachusetts Register, which affords some protection. However, the playgrounds used by students at the Baker, Devotion, Driscoll, Heath, and Runkle schools have no open space protections.

Given the importance of active play for children, and the concern over inactivity and obesity in children, all of Brookline's schools should have open space protection, not only for the areas with play structures and playing fields, but also for the open spaces where children can run and play freely.

Traffic Islands, Median Strips, and Other Small Open Spaces

Traffic islands, median strips, and other small open spaces that are currently either landscaped or left in a naturalized condition contribute to the sense of green space in Brookline. Many small urban open spaces and green features do not have Article 97 protection, and this level of protection should be considered by the Town. Several of these small and obscure open spaces serve habitat and conservation values. The Clark Road and MBTA Land, the Clinton Road Waterworks Land, and the Reservoir Road Land serve habitat needs, but do not have any open space protections. The Town should seek to protect the open space value of such lands. For those with conservation value, a conservation restriction could be considered. The small open spaces that are adjacent to streets and roads could be afforded further protection as they collectively provide great value, including potentially serving the needs of greenways, stormwater management, or for offsetting climate change.

Green Features and Small Open Spaces in Developed Areas

The sense of green, open space has been diminished in many of Brookline's residential neighborhoods, by expanding the home's footprint, tear-downs, subdivision and infill housing, and replacing plantings with hardscapes. While the undeveloped portion of some large residential properties could be protected by a conservation restriction, a more

likely procedure for protecting the small green spaces in residential neighborhoods would be through comprehensive "green" zoning changes. Brookline's zoning currently has some limited protections for small green spaces in neighborhoods; however the Town should identify ways to increase their protection.

The Zoning By-law could also play a major role in supporting green features and open, publicly-accessible spaces, particularly in new multi-unit developments. In addition, "green" features that address climate change could be integrated into such development.

Areas which are largely residential and do not have parks and gathering places near homes, such as in parts of South Brookline and in dense developments, need "pocket parks". These small open spaces provide significant benefits to residents, and are typically used heavily by neighbors in particular. In addition, they may have value to wildlife for habitat and foraging, or resting during migration.

Zoning for Open Space

The comprehensive plan recommends consideration of zoning tools for protecting open space. There is considerable interest in Town in using such tools for protecting the smaller open spaces and green features that are part of the built environment, such as shared open space in developments.

Portions of the existing Zoning By-Law were designed to protect open spaces in the context of development and ensure that public benefits from green spaces continue to be enjoyed by the community while allowing healthy growth. It has become increasingly apparent that some of these guidelines need to be re-examined. For example, landscaped open space as defined by the Zoning By-Law, includes paved walkways and terraces, up to 30% of the total open space, in calculations of required open space on a lot. Although in certain parts of town, namely the densest areas, this guideline can lead to appropriate plaza-like open spaces, in more suburban areas of town, this particular guideline can and has been abused by developers to pave over open spaces that feature many of the values as defined above, or max out FAR (Floor Area Ratio) by building balconies, resulting in "open" areas with very little true open space or community value.

With the recent increase in Town-level discus-

sions regarding zoning, and with the creation of a Moderator's Committee to examine parking requirements within the Zoning By-Law, it is an opportune time to examine the Zoning By-Law and guidelines that impact open spaces, to determine whether the current By-Law sufficiently protects open spaces and green features in the built environment. Specifically, over the next five years, aspects of the Zoning By-Law that merit discussion should include, but are not limited to: the appropriate level of parking requirements and whether parking calculations should remain de-linked from FAR calculations, whether FAR-based zoning is the most appropriate technique to protect open space, redefining open space within the Zoning By-Law to better reflect the definition found in all other Town planning documents, and re-examination of current FAR relief based on public benefit incentives focused on open space.

Zoning tools are less useful for protecting significant conservation uses or larger open spaces. However, the use of zoning overlays could potentially support some protection, perhaps for wildlife corridors or for private properties adjacent to wetlands.

B. Green Corridors

The 2010 Open Space Plan uses the term green corridors to describe both wildlife corridors and greenways. Formerly the term greenways was used to describe both types of linear green systems. Since the 2000 Open Space Plan introduced the idea of "greenways" as an important open space concept, public interest in identifying and protecting greenways in Brookline has remained strong. Greenways were discussed at all three public forums for this Open Space Plan, and a working group devoted to greenways was formed to focus attention on the many issues related to greenways. Greenways were also an important issue identified in the 2005-2015 Comprehensive Plan and the 2006 Parks, Open Space and Recreation and Master Plan, with goals for greenways establishment and protection in both plans.

Although there is consensus on the importance of greenways, the public forums and working group meetings on greenways made clear that there are distinct types of greenways, each with different critical characteristics, and each with different functions and values to the community. It was also clear that a consistent and coherent definition was needed for these types of open spaces. Open Space Plan 2010

recognizes two major categories of linear green systems: Wildlife Corridors and Greenways, and introduces the term Green Corridors to encompass both types of open space. The two systems provide important and distinct functions and have different needs.

Wildlife Corridors

Wildlife Corridors are one type of Green Corridor. Wildlife Corridors are bands of vegetated habitat area that allow for movement and survival of wildlife through residential and urban surroundings. Wildlife corridors are often connected to larger areas of open space, and may function as a link between two or more larger open spaces.

Wildlife corridors are a key component of a functioning urban ecosystem. Wildlife corridors may be large and diverse enough to support wildlife on their own, or they may function primarily as connections between larger areas that support wildlife. If the patches of larger habitat areas become isolated from one another as the narrow connecting wildlife corridors are lost, their ability to support wildlife may be lost.

Animals move from one area to another for a variety of reasons: to access sufficient habitat; to find a new home when the resources of current habitat are lost to development or to natural changes; and to use different kinds of habitat for seasonal changes, reproduction or differing needs of offspring. Migration may also aid population stability by maintaining genetic diversity and preventing genetic collapse due to inbreeding of small, isolated populations. The ability to migrate is particularly critical for species facing threats from development, pollution, habitat conversion, and climate change.

Owls, hawks, white-tailed deer, eastern coyotes, wild turkeys, dragonflies, monarch butterflies, and migrating birds, particularly warblers, are among the more obvious animals which rely on wildlife corridors. But many less obvious migratory animals also depend on wildlife corridors. In Brookline, spotted salamanders breed in vernal pools in the wetlands of the D. Blakely Hoar Sanctuary, in the Lost Pond Conservation Area, in wetlands on the east side of Hammond Pond Parkway, and probably in other vernal pools and wetlands on private property. Spotted salamanders migrate annually in the spring from undisturbed upland areas, where they live underground for most of the year, to wetlands and pools in order to breed.

NEEDS ANALYSIS

The salamanders rely on vegetated connections between wetlands and uplands.

The sanctuaries and naturalized areas owned by Brookline are relatively small, yet support a surprising amount of biodiversity. This is partly because they are located near other sizeable parcels of land in relatively natural condition and are connected to them through some form of wildlife corridor. Most of these properties are located in the central and south sections of Town. Protecting land with significant habitat value and maintaining physical connections between them is the key to maintaining current wildlife diversity in Brookline.

Many of the existing habitat corridors in Brookline have not been identified, and are unprotected from development. These corridors may not be obvious from the ground, and may need to be identified using orthophotography and other aerial mapping techniques that can highlight continuous swaths of undeveloped open space. These corridors can include land on both public and private property. Brookline should identify wildlife corridors, especially corridors that connect larger habitat areas, and develop a set of strategies and tools to protect them.

Greenways

Greenways are another type of Green Corridor. Greenways are routes that generally follow a street, roadway, or path and are characterized by their vegetation and scenic value as well as their amenity for non-motorized travel, such as pedestrians and bicycles. Greenways have sufficient buffers of trees and vegetation to provide shade, cooling, stormwater management, air and water quality improvement, and visual and sensory pleasure and safe travel for all users. Greenways help to reduce greenhouse gas emissions that contribute to climate change by providing enhanced accessibility between town amenities, and encouraging walking or cycling as favorable alternatives to driving. As such, they can also reduce traffic congestion and conflicts related to insufficient parking.

Some of Brookline's greenways, such as the Emerald Necklace, are large unified systems that include vehicular parkways, bicycle and pedestrian paths, and wide belts of trees and landscaped areas. Others follow smaller roads, connecting parks to schools or serving as major bicycle commuter routes. Brookline's smallest greenways follow pedestrian pathways, and wind through narrow passages in dense residential neighborhoods. Many of the existing bicycle accommodations are not part of greenways, and many areas of Town do not have any greenways.

Table 6. Existing Bicycle Accommodations

This list includes streets with shared bikes lanes & other streets that are not necessarily greenways.

Beacon St. (east & westbound, entire length)	Bike Lane or "Share the Road" signage
Longwood Ave. (eastbound, St. Paul St. to Chapel St.)	Bike Lane
Longwood Ave. (westbound Chapel St. to St. Paul St.)	Brookline Modified Sharrow* Pavement Marking
Washington St. (northbound Harvard St. to School St.)	Bike Lane
Washington St. (southbound Cypress St. to Harvard St.)	Brookline Modified Sharrow* Pavement Marking
Netherlands Rd. (westbound, entire length)	Contraflow Bike Lane
Parkway Rd. (northbound, entire length)	Contraflow Bike Lane
Harvard St. (north & southbound, Longwood Ave. to School St.)	Bike Lane
Harvard St. (northbound Beacon St. to Town line)	Bike Lane
Harvard St. (southbound Town line to Green St.)	Bike Lane
Green St. (Harvard St. to John St.)	Bike Lane
Olmsted Park (entire length)	Bike Path
Riverway Park (most of entire length)	Shared Bike/Pedestrian Path

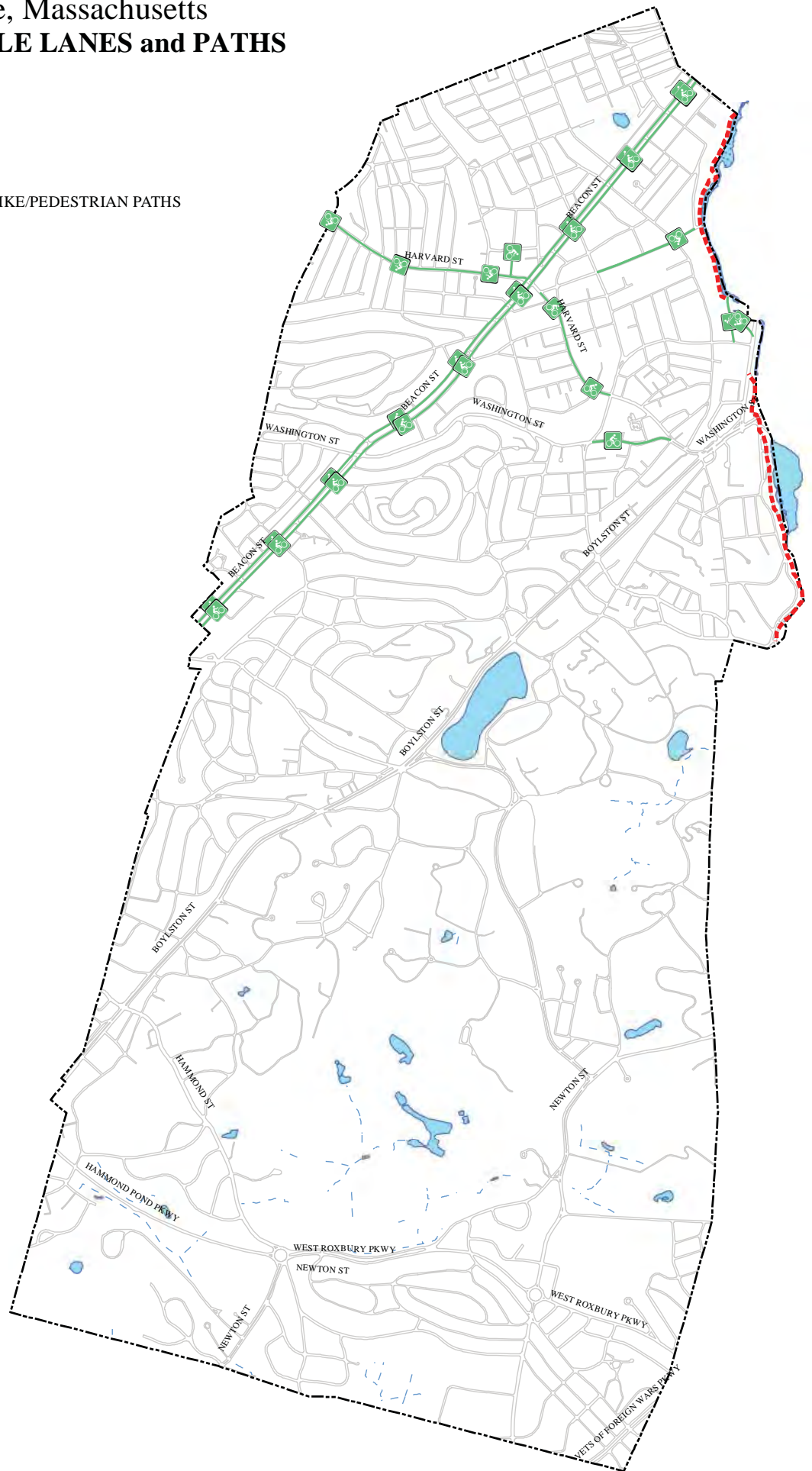
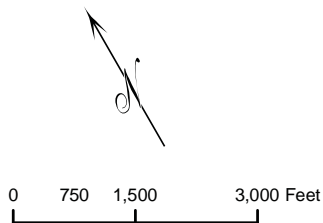
**A Sharrow is a shared roadway marking, showing a bicycle with two arrows above it.*

Town of Brookline, Massachusetts

EXISTING BICYCLE LANES and PATHS

LEGEND

- BIKE LANES
- - - BIKE PATHS or SHARED BIKE/PEDESTRIAN PATHS
- RIVERS
- WATER BODY
- TOWN BOUNDARY
- EDGE OF PAVEMENT



Map created by Brookline GIS on 01/18/2006; Updated on 05/03/11
 Map Document: \\brkgis\parks\osmasterplan05\actionplan\l3bw.mxd.

Table 7. **Potential Greenways in Brookline**

Lee and Clyde Streets
Hammond Street
Hammond Pond Parkway
Newton Street
Grove Street
Washington Street
Route 9 (owned/managed by the State)

Greenways provide many benefits: scenic value; preservation of historic landscapes; multi-modal transportation; and significant environmental enhancements including improved air quality, reduced “heat island” effects, and better stormwater control. In spite of their benefits and their increasing importance with climate change, Brookline has few formally designated greenways and lacks a process or criteria to formally designate new greenways. In addition, many routes that are considered greenways are completely unprotected from development or loss of vegetation.

The lack of protection for greenways, and the need to create more of them, has been widely recognized. The Town's Historic Preservation Plan and previous Open Space Plans have proposed several streets for designation under the Scenic Roads Act. In addition, the 2005-2015 Comprehensive Plan recommends the creation of a greenway buffer zone on specific roads that are part of a suggested Brookline Heritage Greenway Trail.

Greenways and other open spaces also serve a health benefit, by encouraging physical activity and providing convenient options for walking, biking and other similar activities. The Town encourages increased physical activity and improved fitness by offering a variety of recreational programs, holding fitness fairs and other educational activities, and sponsoring related events such as bike parades and walk to school/work days. These programs are generally undertaken collaboratively by various departments. New greenways and enhancements of existing greenways can provide appropriate, appealing settings for many of these activities and events.

During the 2010 Open Space Plan public forums, comments from Brookline residents stressed the need for improved bicycle and pedestrian routes, access to open space, and greening of roads and bike trails. The Community Needs Assessment conducted for the Brookline Parks, Open Space and Recreation Master Plan in January

2005 concluded from its survey of residents that adding more trails and bicycle paths ranked third among the most important large recreational project preferred by Brookline residents.

Although Brookline has continued to plant street trees, and to add bicycle lanes to some streets, there are no formally designated greenways, and the critical greenway characteristics of paths, streets and roadways are generally unprotected. There is a need to identify and protect important existing greenways in Town, and to identify key transportation corridors that can be developed into greenways through improvements to pedestrian and bicycle amenities, and increased vegetation.

C. Wetlands

Wetlands and similar resource areas benefit the community significantly and need continued protection and appropriate management by the Town. These areas provide protection for water supplies, flood control, storm damage prevention, pollution prevention, and wildlife and fisheries habitat.

The Conservation Commission protects wetlands, rivers, streams, and floodplains by administering and enforcing the Massachusetts Wetlands Protection Act, as well as the Town's Wetlands Protection By-Law. The Wetlands Protection By-Law was passed in 2006 to provide protection for water and wetland resources in Brookline that lacked protection or were not adequately protected by existing state law. The By-Law provides protection for isolated wetlands larger than 2500 square feet, vernal pools, and intermittent streams. In addition, the By-Law increased the buffer zone around wetlands to 150 feet. Alterations proposed within the buffer zone require review by the Conservation Commission to ensure that they will not adversely impact wetland resource areas. In 2010, a minor amendment was made to the By-Law to ensure that isolated land subject to flooding was listed as a resource area, where it had been inadvertently omitted. In 2009, the Conservation Commission promulgated and approved Wetlands Regulations to support the Wetlands Protection By-Law. The regulations do not alter or modify the By-Law in any way, but are intended to provide additional guidance regarding a variety of topics, including definitions, exemptions and exceptions to the By-Law, performance standards for areas subject to jurisdiction, and procedures for filings, hearings, enforcement, and appeals. The By-Law and Regulations have aided in protecting valuable wetland resource areas in

Brookline, a community where these areas are scarce and often at risk. Additional needs for wetlands protection in Brookline include consideration of ways to strengthen the protection of buffers around sensitive wetland areas.

Surface water bodies, such as rivers, brooks, ponds and lagoons, are also protected under the state Wetlands Protection Act and the local Wetlands Protection By-Law. The Muddy River, which forms the Brookline-Boston border in the Emerald Necklace Park system, is a very prominent local water body that Brookline is obligated to protect. Brookline continues to actively participate in plans to dredge and rehabilitate the River and its parks as part of the ongoing Muddy River Restoration Project, which also involves the United States Army Corps, Commonwealth of Massachusetts, City of Boston and a number of private organizations. The goals of this project are to provide flood control, improve water quality and fisheries and wildlife habitat, and preserve the historical character of Olmsted and Riverway Parks along the Muddy River in Brookline. This project has experienced numerous delays in recent years, and there is a need to keep the momentum going so project benefits can be realized, and to prevent continued deterioration of this valuable resource.

Local surface water bodies include Hall's Pond, Lost Pond and Larz Anderson lagoon, as well as the privately-owned Sargent Pond. All of these water bodies experience environmental pressures such as contaminated stormwater drainage and surface water runoff containing fertilizer and herbicides. The Town needs to continue to carefully monitor and ensure the health of these water bodies, undertaking dredging or other treatments as needed. For Lost Pond, coordination with property owners of adjacent lands, including the City of Newton and the state Department of Conservation and Recreation, is critical to ensure protection of the pond, and identification of any unusual changes in water quality or character.

A number of local brooks still run at surface level. These include the Saw Mill Brook, branches of which pass through the D. Blakely Hoar Sanctuary and the former Newton Street landfill site. The Town Engineering Department has successfully identified illicit connections to the brook which were contaminating the water, and should continue to monitor this brook and others in Town. Other local brooks and streams must be protected from damage from nearby development or property management practices. Better hydrological characterization, mapping

and naming of smaller streams will help further their protection under existing laws.

Town departments have improved their communication and coordination of municipal decisions regarding permitting and development in and near wetland areas, particularly by including a conservation "check-off" on Building Department permits. Continued enforcement of these requirements is necessary to ensure these measures are successful.

The Town and the Conservation Commission need to carefully consider current environmental challenges, including climate change and the spread of invasive species, in their management and protection strategies for wetlands, including water bodies. There is a need for education for wetlands permit applicants, the general public and staff on these issues and their implications for Brookline's wetland resource areas.

D. Watersheds and Infrastructure

Brookline is a densely developed community, and most of its original natural drainage systems, including small creeks and streams, have been paved over. Drainage today is provided mainly through a large interconnected system of underground pipes, or storm drains, which carry rainwater runoff and snowmelt from streets and sidewalks out to the Muddy River or the Charles River. There are fifteen major drainage areas, or watersheds, created by these storm drain systems. Brookline's drainage system functions entirely through gravity, without pumping, and runoff tends to collect first in small channels or in pipes, which in turn flow down into larger collector drains and ultimately into very large conduits that discharge at fifteen locations, or outfalls. Seven of these locations connect into a neighboring city's drainage system – either Newton or Boston – and eight of them discharge directly into the Muddy River. The Watersheds in Brookline map (page 29) shows Brookline's watersheds and outfalls.

The impacts of this storm drain infrastructure on Brookline's water resources are significant. As rainwater and snowmelt wash over our paved landscape, they carry pollutants including sediments, nutrients and pathogens into our ponds, wetlands and streams. Stormwater reaches our rivers at a much more rapid rate than in natural drainage systems, contributing to flooding. Groundwater recharge is reduced, causing water tables to drop in summer.

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Stormwater Runoff

Most stormwater runoff comes from “impervious” areas, land that has been paved over to create streets, sidewalks, driveways, parking lots and buildings. Runoff from these impervious surfaces generally collects in Brookline’s roads and streets, where it flows down the gutter until it enters a catch basin. Here some large pollutants such as litter and heavy sand may be trapped. The water flows out of the catch basin into a storm drain (usually a concrete pipe) that follows the street system downhill until it is discharged into a wetland, a pond or a stream.

Brookline has been working to reduce the impacts of stormwater runoff. The Town performs regular streets sweeping throughout the spring, summer and fall seasons. Catch basins are inspected and cleaned on a regular basis. The Town has passed a Stormwater Management By-Law that requires new construction and reconstruction projects to manage their stormwater on site to the maximum extent possible. Yet the impacts of development and piped infrastructure remain significant.

Over time, Brookline will need to reduce the impacts of stormwater runoff. This can be done by reducing the total amount of “impervious cover” - land that rain cannot sink into - in the Town, by using small treatment systems to capture rainfall and let it soak into the ground, and by increasing our open space and tree canopy, which are natural stormwater treatment systems.

New Approaches to Infrastructure

There is an increasing interest across the country in managing runoff, even in urban areas, using more natural, vegetated systems. In some regions, natural drainage infrastructure, sometimes called “green infrastructure,” has proven an effective complement or alternative to conventional curb-and-gutter drainage. Green infrastructure may include large landscape-scale elements such as open channels with vegetated banks, or small street-scale structures such as stormwater planters. In addition to potentially providing better ways to manage runoff and reduce impacts to water resources, these systems can add to Brookline’s open space, and could become a component of new greenways.

One approach to helping manage stormwater and improve the public realm is with the creation of so-called “green streets,” streets which minimize

paved surfaces, and use vegetated systems to collect and carry rainwater wherever possible. The first widespread use of green streets has been in Portland, Oregon, and Seattle, Washington, where they have been successfully integrated into the cities’ infrastructure programs and are well liked by residents. While it is likely that some green street designs would offer benefits to Brookline, there are few local examples to learn from. More information is needed about what plant types will thrive in this environment, especially under conditions of climate change, and what designs are feasible with higher intensity rain storms.

Green Streets

A Green Street is a street that uses vegetated facilities to manage stormwater runoff at its source by slowing the flow of water, filtering pollutants, and facilitating water recharge, to protect watershed health (Portland Green Street Program).

Some of the main elements incorporated into Green Streets include:

- **Vegetation:** *usually landscaped and located in curb extensions, integrated street planters, rain gardens, swales, tree lawns, etc.*
- **Pervious surfaces:** *soil/sand, permeable/porous pavement, paving stones, bricks, etc.*
- **Emerging technologies & infrastructure:** *simple Green Streets can be very effective, however new methods are being developed and implemented to accommodate different streetscapes, for example stormwater tree pits for urban areas*

Brookline needs more information about, and experience with, natural drainage systems, and needs to understand the feasibility, costs and benefits of adding green elements to its infrastructure. The Town needs to understand the potential benefits, as well as costs, of these types of systems. Since some of these approaches, such as reducing the amount of paved area or “impervious cover” in Town, may involve activities on private property, there should be public outreach and education about infrastructure.

Brookline also needs to understand the long term operation and maintenance costs of green infrastructure and green street systems.

Development, Transportation and Open Space

New development, redevelopment and modifications to existing development have incremental and cumulative impacts on Brookline's open space, especially the impacts of parking, driveways and roadway alterations. Brookline has few tools to control these impacts and needs to explore the opportunities that may be available using zoning, transportation and stormwater By-Laws to support open space protection.

Depaving Initiatives

Depaving, or removal of unnecessary pavement, is one strategy for improving the quality of open space, adding green features, and managing stormwater runoff. The group Depave, based in Portland, Oregon, provides assistance to people wishing to remove concrete and asphalt, and provides education and advocacy on the benefits of depaving. They have depaved over 58,000 square feet since 2007 using only volunteers (www.depave.org). Depaving efforts are now underway in Massachusetts as well, with recent projects in Somerville and Boston.

E. Habitat and Wildlife

Wetland habitats are one of the eight interests protected under the Massachusetts Wetland Protection Act. Protecting the habitat is crucial to the survival of animals and plants that live within those wetlands, but it may not be sufficient.

Wetland wildlife species (plants and animals that live within wetland resources and buffer zones) often require habitat which is not part of a wetland for part of their lives. For example, wood frogs and yellow-spotted salamanders must breed in wetlands, but spend most of their lives in upland wooded areas. Those habitats – required by the species but often not part of jurisdictional, wetland resource areas – are not protected by the Wetland Protection Act and the Brookline Wetlands Protection By-Law. When open space is protected for its value as wildlife habitat, these protections do not necessarily extend to the animals and plants themselves. While certain species are given protection by state or federal regulations, many native plants and animals are not given any legal protection.

Even when animals have legal protections, the

food they need, for example plants or animals, is not protected. Animals that people particularly favor may depend on food that is not a valued part of Brookline's landscape. For example, Monarch butterfly caterpillars must eat milkweed, but milkweed is regularly removed from unprotected land. The wildlife that still survives in Brookline often depends not only on locally native species but also on the non-native species that have replaced the native ones.

In order to protect wildlife, Brookline needs to protect undisturbed land that serves as wildlife habitat. In addition, that land should be kept in the condition that makes it possible for wildlife to continue to survive. Replanting or landscaping an undisturbed wildlife habitat can degrade or destroy the land's habitat value for desirable wildlife even when the intention is to improve that open space.

In order to protect open space that supports wildlife habitat, Brookline could explore strategies for extending protection of land that supports wildlife habitats. This would include: greater protection of wildlife habitat that extends beyond that protected by the Wetlands Protection By-Law; protection of land which is adjacent to sanctuaries, properties with conservation restrictions, and unprotected properties that serve the habitat needs of local wildlife; and protection of areas that support biodiversity and serve as wildlife corridors for the movement of individuals and species. Second, Brookline could also explore regulations and promote resident support, for specifically protecting the wildlife habitat, rather than merely protecting land but allowing the wildlife habitat to be degraded or destroyed. Third, Brookline could educate the public and generate stewardship and understanding that protection of wildlife habitat: enhances Brookline; helps buffer certain effects of global climate change, and; is of particular importance in an urbanized area, for the survival of migratory birds and diverse animal and plant species. Finally, Brookline could inventory and monitor native wildlife populations within Brookline and explore means to better protect them.

F. Parks and Recreation Lands

Brookline needs to continue its commitment to careful stewardship of park lands, including renovation and maintenance of parks. The 2006 Parks, Open Space and Recreation Strategic Master Plan advances important parkland goals that are further described under the Recreation Section of Community Needs below. In the past five years

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Brookline has been able to add significant new open spaces to its inventory of parks. However, it remains clear Brookline must pursue opportunities to add to the park system, including any pocket park opportunities that may arise.

G. Urban Forest

Tree Maintenance and Care

Brookline maintains more than 11,000 street trees as well as the trees in parks, sanctuaries and other public spaces, for a total of over 50,000 trees. Besides their habitat, erosion control, air quality, and esthetic value, urban trees provide important shading that reduces the heat island effect in our built environment and reduces the energy needed for cooling homes, schools, and commercial buildings. In order to manage their planting, routine care, replacement and emergency situations involving Town trees, Brookline needs to ensure sufficient funding for the urban forest, including adequate funding within the Parks and Open Space Budget and through the Capital Improvements Program.

Significant trees on private property contribute considerably as “green features” in developed areas and as important resources in the less-developed areas of Town. They need protection from unnecessary destruction, and there needs to be some way to provide the level of maintenance and care needed to preserve larger and older trees.

Protection from Destructive, Non-Native Invasive Species

Recent invasions of non-native invasive insects that destroy trees have put stress on our local environment. The most recent, the Asian longhorned beetle, following the invasion of the Hemlock woolly adelgid, illustrates that considerable resources are required to combat these species. In addition, climate change has the potential to increase the spread of some of these invasive insects and/or the susceptibility of local trees to damage by these insects.

Certain non-native plants are very invasive and are threatening native plants, and need to be kept under control. Non-native invasive plants already in Brookline include Japanese knotweed, buckthorn, and *Phragmites* (common reed), among others. Besides the nuisance factor and loss of habitat when invasives spread, stopping outbreaks and reclaiming land can have significant economic cost

if invasive species are allowed to establish themselves and spread. Locally native species that are under threat from non-native invasive species should be given protection.

II. COMMUNITY NEEDS

A. Recreation

In June of 2006 the Town completed a Parks, Open Space and Recreation Strategic Master Plan. The Plan, a ten year vision for the Town, is a detailed planning guide specifically focused on parks and recreation that discusses existing community resources; recreation and open space goals; needs concerning parks, recreation and conservation lands; recreation facilities and services, parks maintenance strategies, and provides a menu of recommendations with an action plan for implementation. To provide the foundation for understanding Brookline's specific park and recreation needs, the Master Plan utilized a variety of methods and tools including a statistically valid citizen survey and data maps to determine the existing and desired level of service related to parks, open space and both passive and active recreation in Brookline. The citizen survey conducted as a component of the Plan revealed that Brookline residents strongly support more parks and open space.

As previously discussed, based on national standards included in the Level of Service (LOS) analysis within the Parks, Open Space and Recreation Strategic Master Plan, a target goal for Brookline should be 10 acres per 1,000 residents. To meet the needs of the citizens of Brookline we still need an additional 36 acres to meet this standard. The recent acquisition of new open space at Fisher Hill, with planned development as a park, has added an additional 9.7 acres to our inventory of open space. This still leaves a deficit of approximately 26.3 acres of Open Space.

The Plan recommends that the additional land be split evenly between active and passive recreation, or conservation land. This is consistent with findings in the Massachusetts Statewide Comprehensive Outdoor Recreation Plan (SCORP) in both 2000 and most recently in 2006 that the overall highest new recreational resource priority statewide, as well as in Metropolitan Boston, is for new walking and biking trails followed by the need for new parks and playgrounds for field-based activities. Beyond the additional land required to meet national averages per capita, the Plan recom-

mends that the Town of Brookline consider additional land to address some of the other deficiencies addressed in the Master Plan specific to available athletic fields and community centers.

Even with the addition of a new regulation size synthetic turf soccer field at Skyline Park, Brookline has a deficit of multi-use turf fields. The analysis revealed that an ideal target would be to build six new multi-purpose turf fields of sufficient size to accommodate regulation sized soccer fields as well as six additional ball fields.

The Plan also revealed that a large portion of the Brookline population is unaware of existing park, open space and recreation programs and facilities. In order to increase awareness, the Town needs a comprehensive marketing and public engagement strategy related to parks, facilities and programs.

Since the 2005 Open Space Plan, Brookline, like other communities across the Commonwealth, has been faced with challenging economic times. Brookline has been trying to find a means to provide the additional facilities, programs and lands described above. Creative use of existing facilities, acquisition, partnership and alternative funding mechanisms may be required to meet the Town's park and recreation needs. Additional public process and guidance from the Board of Selectmen will be necessary in order for Brookline to move forward with this vision.

B. Education, Outreach and Advocacy

Environmental Education

Brookline organizations have considerably increased the number, type, and quality of environmental education programs and activities for children, families, and adults. Collaboration among these groups is now needed to reach more residents more efficiently, and to present a broader and more consistent overall message.

There are many residents who do not know the extent of Brookline's environmental resources, including parks, other open spaces, and environmental education programs and organizations. Many residents also do not understand the fragility of many of the open spaces or the links between open space, environmental services, and societal needs. Uninformed citizens generally do not and will not support budget expenditures sufficient to meet

needs. New creative initiatives and partnerships to supplement existing high quality programs would boost interest, utilization, appreciation, and support for these resources.

The Town's commitment to open space is paired with a requirement for care and maintenance. Increased public support and investments in funding open space would serve the community in multiple ways.

Access to Open Space

Statewide analysis in the 2000 Massachusetts Statewide Comprehensive Outdoor Recreation Plan (SCORP) showed that improving access to recreational opportunities and open space for people with disabilities was the second highest priority for new funding initiatives among those citizens polled. In 2006, surveys again showed a high level of support for improving access.

The Town of Brookline does not discriminate on the basis of disability in admission to, access to, or operations of its programs, services or activities. Brookline's parks have been evaluated for accessibility. Restoration and new construction of parks is done in compliance with the Americans with Disability Act (ADA), a comprehensive federal civil rights law, passed in 1990, that prohibits discrimination on the basis of disability.

While most parts of Brookline's parks are accessible, there are sections in our sanctuaries and naturalized areas that have rough terrain or long trails that are challenging to people with disabilities, as well as to people with health issues, people who are not comfortable walking longer distances on rough terrain, and parents of children in strollers.

Brookline should make the public aware of those sections of open spaces which are accessible to all and encourage their use by all, especially as experiences in open space have been linked to physical, mental and emotional health. The Town should continue to work to add and maintain features in its open spaces that contribute to accessibility. Amenities that make open spaces more accessible and useful for all include sufficient parking reserved for people with disabilities, accessible restrooms that are well-maintained, as at Skyline Park, and accessible paths and park furniture.

In some sanctuaries with accessible trails, park-

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ing or maintenance can challenge visitors with disabilities. For example, Dane Park's trail improvements include a fine accessible trail leading directly from the gate on Hammond St, but parking and access from the car to the gate are problematic for one who needs space and safety to unload and transfer into a wheelchair. While the trails at Hall's Pond Sanctuary are accessible, when the gates are not working properly, they are difficult or impossible for some people with disabilities to use.

The Town needs to educate and inform the public about accessible open spaces and recreational opportunities in Brookline's parks and open spaces. In addition to accessible paths, trails and seating at many parks and sanctuaries, some playgrounds have play equipment designed for persons with disabilities, such as the new play equipment at Driscoll School, which can accommodate younger children with mobility impairments.

Green Corridors

There is a fairly low level of awareness in the community of the function and importance of wildlife corridors. Because many of these natural corridors do not follow roads or pathways, they are not easily recognized. If Brookline hopes to identify and protect wildlife corridors, there will need to be public outreach and education about where they are, the values they provide, and how to protect them. This is especially true since many wildlife corridors cross private property. There may be opportunities to protect these corridors through tools such as conservation restrictions, zoning overlays, or additional measures, all of which would require significant awareness, involvement and support by the Town and the community.

The community also needs education about greenways and the walking and bicycling opportunities they can provide, along with their other environmental benefits. As greenways are developed, better signage and maps will be necessary to connect the community with these areas, and encourage and facilitate their use and stewardship.

Infrastructure and Stormwater

Open space, including wetlands and buffer zones, riparian areas, greenways, and green streets, will play an important role in helping Brookline manage stormwater in the future. This will be especially important as climate change brings larger, more intense rainfall events with the potential

to create more frequent flooding. Brookline will likely need to expand and modify its stormwater infrastructure and management in the coming years. The Town needs an expanded education program to ensure that residents understand the challenges and opportunities stormwater management present. Because there are many uncertainties about new approaches and new technologies for using open space and vegetated areas for stormwater management, the Town needs to develop pilot projects to help educate Town staff, Boards and Commissions, as well as residents.

Winter sand and salt use in Brookline has significant impacts on water resources as well as on roadside vegetation and the urban tree canopy. Research and educational outreach efforts are needed to identify the least environmentally harmful technologies and materials to maintain public safety on streets and sidewalks, and to identify best practices for application and clean-up.

C. Financing Open Space Initiatives

Brookline will continue to face challenges in identifying how to fund its open space needs. The Town needs sufficient funds to maintain its existing open spaces, to acquire new open space when appropriate opportunities exist, and even to create new open space such as greenways and pocket parks.

The goal of obtaining additional land to meet open space and recreational needs and the goal of developing additional affordable housing run up against the very high cost of real estate in Brookline. The average estimated land acquisition cost in South Brookline ranges from \$1.3 to \$1.7 million/acre. At present, the Town has an Affordable Housing Trust which receives periodic contributions that have enabled it to leverage funds for the development of some affordable housing. No comparable source of funding for open space land acquisition exists. The substantial needs in both of these areas present a major financial and planning challenge.

Options for funding open space may also include earmarking existing and future revenue streams, designating a percentage of the budget, CIP funds, development fees, or fees on park use. Determining an appropriate funding source will require careful assessment by the Town.

Without serious planning and commitment, Brookline will not be able to acquire significant pri-

vately-owned parcels or commit to arrangements that protect such land with third-party collaboration. Brookline's Land Acquisition Fund needs significant and regular contributions.

Brookline needs a policy and procedure to plan for and put into action other proactive strategies to fund acquisition or arrange other protections when significant environmental features are at imminent risk.

Funding is also needed for acquisition or development of green corridors, both for wildlife corridors, as well as greenways as routes for walking, bicycling, etc. In some locations, open space may be available for green corridors, but funding will be required to enhance and modify the space to function as a green corridor.

Long-term financial planning has long been a hallmark of Brookline's government structure. There are long-term financial models utilized by the Town in other areas of the budget, such as the model used to ensure funding for the Housing Trust Fund. This type of planning effort would be of great benefit in addressing some of the challenges associated with the purchase and acquisition of open space. This type of consistent revenue-based budgeting is crucial if there is to be any meaningful future acquisition of additional open spaces.

Stormwater Management Costs

In addition to other open space financing needs, Brookline will have growing costs associated with stormwater management over time. The Town needs to better understand what these costs will be, especially over the long-term, and needs to consider what the opportunities are for raising additional revenues to fund the work, so a stable planning and budgeting process can be developed. Revenues for stormwater management may come from general funds, from water and sewer fees, from one-time grants, or from other fees. Many municipalities around the country, and an increasing number in Massachusetts, have developed a dedicated stormwater fund, either an enterprise fund or a separate stormwater utility, which raises funds through a stormwater fee that is assessed on property owners. Stormwater management should always aim for approaches that provide multiple benefits, such as adding tree canopy, increasing vegetation and open space, providing traffic calming, and helping adapt to a changing climate, especially if large capital investments are needed.

Greenways are one approach that can provide many of these benefits, though a variety of approaches will be needed to comprehensively address stormwater management.

Ongoing Maintenance Costs

Throughout the public meetings and working group meetings for the development of Open Space Plan 2010, numerous concerns were expressed about how Brookline can maintain adequate funds for the maintenance of our open space. Although Town finances are limited and budgetary constraints are likely to continue, the Town needs to prioritize funding for maintenance of existing open spaces, which play such an important role in maintaining the Town character, public health, habitat values, climate change adaptation and water resource protection.

Brookline also must continue to maintain the existing open spaces at the level seen over the past decade to ensure that the work of the past few years does not unravel. At a minimum, the Town needs to find ways to maintain the level of funding for the parks and open spaces. Over the past decade, the Parks and Open Space budget has remained level, at approximately 1% of the Town Budget. This should be continued, and if possible increased to reflect increasing costs due to inflation and additions to the park inventory.

The Parks and Open Space Division has made substantial capital investments in the last five years, which require additional ongoing maintenance, including the addition of Skyline Park, the rehabilitation of Dane Park to accommodate new users, and the addition of hundreds of trees on Beacon Street, but the Parks staff has shrunk by 10% since FY06, from 44.44 FTE (Full-Time Equivalent) positions to 39.79 FTE. It is vital to reinstate as many positions as possible to maintain these significant capital investments in our community, and to add to the staff dedicated for these important resources for our Town.

III. MANAGEMENT NEEDS

A. Better Municipal Coordination

Linking the benefits of open space, increased vegetation, better public amenities and stormwater management will require improved coordination between Town departments. Of particular impor-

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tance, the Department of Public Works, including the Parks and Open Space Division (and Conservation), the Engineering and Transportation Division, the Highway and Sanitation Division, and the Water and Sewer Division, as well as the Planning and Community Development Department (and Preservation), the Health Department, the Building Department, the Recreation Department, and the School Department should all work together to identify shared goals and needs.

B. Complying with Stormwater Regulations

Brookline will likely get a new stormwater discharge permit from the US Environmental Protection Agency in 2011. Among other things, this permit will impose new requirements for managing stormwater and reducing pollution to water bodies. This new permit will require extensive planning, water quality testing and ultimately the development of new capital construction projects to improve stormwater drainage. These new regulations present both a challenge and an opportunity for the Town. The Town needs to work to ensure that investments in the stormwater management system maximize overall public benefits, whether through increasing the tree canopy which will provide cooling and shade as well as stormwater interception, or through creating "green streets" which can manage stormwater runoff while providing increased vegetation and plantings at the street level.

C. Public-Private Partnerships

In the area of open space protection, partnerships between public and private entities may often be the best way to secure results. Coordination between the Town and the Brookline Conservation Land Trust, the Brookline GreenSpace Alliance, and various "Friends" groups is a valuable way to conserve and steward open space. The development of a new Conservation Restriction Policy, enacted as a specific goal of the 2005 Open Space Plan, provides a much needed set of guidelines that have already proved quite useful when discussing possible partnerships with landowners. Other private entities might prove useful partners for fundraising or other specific activities and such options should be explored.

D. Regional Planning

The number of open space parcels that straddle Brookline and neighboring communities is quite striking: D. Blakely Hoar Sanctuary is located next

to Boston and Newton, Lost Pond Sanctuary abuts Newton and State-owned land, the Emerald Necklace Parks lie on the Boston-Brookline boundary, and the Chestnut Hill Reservoir, with paths accessible to the public, is located just over the border from Brookline in Newton and Boston near Cleveland Circle. The successful management of all of these spaces requires cooperation between municipal entities.

A recent infusion of dollars and community input provides an exciting opportunity for significant improvements at the Town/City line near the Landmark center. This is a specific example of a regional project which would enhance the experience for the users of the Riverway Park as they exit Brookline and enter Boston. Brookline should continue to engage neighboring communities in planning and maintenance of shared open spaces.

"Everybody needs beauty as well as bread, places to play in and pray in, where nature may heal and cheer and give strength to body and soul."

John Muir

"Humans need continuous and spontaneous affiliations with the biological world, and meaningful access to natural settings is as vital to the urban dweller as to any other."

Dr. Stephen Kellert

SECTION 8

GOALS AND OBJECTIVES

In regard to land use, Brookline is a mature community; the general structure and pattern is set. Nevertheless, there remain significant areas of open space, as well as open space resources, which have the potential to be lost or damaged unless action is taken to protect them. All Town-owned open space resources must be properly stewarded, and resources such as pedestrian and bicycle access must be improved. Some of the recurring themes in the goals and objectives include proactive approaches to protecting open space and natural resources, consideration of green approaches in Town planning, ensuring appropriate maintenance and management of open spaces, securement of funds for ongoing and new initiatives, and collaboration among municipal staff, boards and commissions, organizations, and the larger community.

The Needs Analysis described in Section 7 points to specific goals and objectives for the next five years. In order for the Town to achieve these goals and objectives, Town Meeting, many boards and departments, community organizations, businesses and citizens must be proactive in implementing the necessary actions. The following goals and objectives have been established based on the needs identified in Section 7, which reflect comments from public hearings for this Plan, as well input from the Brookline Comprehensive Plan 2005-2015, the 2006 Parks, Open Space and Recreation Strategic Master Plan, and last Open Space Plan from 2005. The deliberations of the Open Space Plan Committee, its working groups, and comments of various boards and departments have also been taken into account.

I. RESOURCE PROTECTION GOALS

A. Unprotected Open Space

GOAL I: INCREASE PROTECTION OF PRIORITY UNPROTECTED OPEN SPACES AS IDENTIFIED IN THE 2010 OPEN SPACE PLAN.

Objective 1. Reach out to property owners of priority unprotected open spaces to discuss potential protection of these open spaces.

GOAL II: ESTABLISH COMMITTEE TO DEVELOP POLICY AND PROCEDURES FOR IDENTIFYING AND PRIORITIZING ADDITIONAL PARCELS WITH SIGNIFICANT OPEN SPACE VALUE.

Objective 1. Establish a committee for open space acquisition, to consider relevant factors in identifying parcels with significant open space value.

Objective 2. Develop procedures to determine whether parcels available for acquisition are significant to the interests of open space, including designating who will decide and how the decision will be made.

Objective 3. Establish and follow specific protocols for reaching out to private owners of significant parcels.

GOAL III: OPEN SPACE WILL BE PROTECTED WHILE ADHERING TO THE “NO NET LOSS” PRINCIPLE AS SET OUT IN THE BROOKLINE COMPREHENSIVE PLAN 2005-2015 (pgs. 83 and 94).

Objective 1. Increase protection of publicly owned open space that is not currently protected from development by placing under Article 97 protection, or other appropriate protection.

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GOAL IV: ENCOURAGE USE OF EXISTING CONSERVATION POLICY TO PROTECT LAND WITH CONSERVATION AND RESOURCE VALUES.

Objective 1. Encourage conservation restrictions for land with significant conservation value even when public access is not an option.

Objective 2. Encourage conservation restrictions with public access, including areas of open space and potential for green features within the built environment.

GOAL V: EXPLORE AND ENHANCE THE CREATION OF GREEN FEATURES AND THE PROTECTION OF OPEN SPACE WITHIN DEVELOPED AREAS.

Objective 1. Identify and establish tools for protecting or creating open space and “green” features in the context of building and redevelopment.

GOAL VI: BROOKLINE WILL USE ZONING TOOLS TO PROTECT OPEN SPACE, AS SUGGESTED IN THE BROOKLINE COMPREHENSIVE PLAN 2005-2015 (pgs. 94-96).

Objective 1. Determine changes in the Zoning By-Law that could eliminate negative impacts on open space and changes to better protect open space and green features in the context of development.

Objective 2. Consider use of overlay districts to protect open space.

Objective 3. Consider use of buffers or cluster zoning to protect green corridors.

B. Green Corridors

GOAL I: BROOKLINE WILL PROTECT AND IMPROVE ITS EXISTING GREEN CORRIDORS, INCLUDING WILDLIFE CORRIDORS, AND PEDESTRIAN, BICYCLE AND SCENIC GREENWAYS, AS SUGGESTED IN THE BROOKLINE COMPREHENSIVE PLAN 2005-2015 (pgs. 94-95).

Objective 1. Identify, publicize and protect significant green corridors of all types.

Objective 2. Identify possible sources of funds for green corridor improvements and protection.

Objective 3. Develop a system to prioritize green corridors depending on values (wildlife, scenic, bicycle and pedestrian, connectivity, stormwater management).

Objective 4. Work with state agencies to identify wildlife corridors and inform the public about them.

Objective 5. Improve safety and aesthetics for pedestrians and bicycles on greenways.

Objective 6. Consider opportunities for adding vegetation, including stormwater management, and shading to reduce heat island effect to all street projects.

Objective 7. Consider potential for zoning overlay district to protect green corridors.

GOAL II: BROOKLINE WILL SEEK OPPORTUNITIES TO IDENTIFY AND PROTECT NEW GREENWAYS AND WILDLIFE CORRIDORS AS SUGGESTED IN THE BROOKLINE COMPREHENSIVE PLAN 2005-2015 (pgs. 94-95).

Objective 1. Identify gaps in green corridors.

Objective 2. Identify streets and roads with potential to be greenways.

Objective 3. Identify priority wildlife corridors using aerial photography and other tools.

Objective 4. Identify and develop pilot projects drawing on novel ways of creating greenways.

C. Wetlands

GOAL I: BROOKLINE'S WETLAND RESOURCES WILL BE PROTECTED AS A CRITICAL COMPONENT OF THE TOWN'S OPEN SPACE INVENTORY.

Objective 1. Ensure a high level of protection for Brookline's remaining fragile wetlands.

Objective 2. Improve water quality in Town surface waters, including rivers, brooks, ponds and lagoons.

Objective 3. Identify ways to apply further protections for wetland buffer zones and/or to expand wetland buffer zones.

Objective 4. Further develop specific protocols for Conservation review of building permit applications for projects which are located within a wetland buffer zone or resources area.

D. Watersheds and Infrastructure

GOAL I: THE WATER QUALITY AND FUNCTIONS OF BROOKLINE'S WATERSHEDS, INCLUDING THE CHARLES AND THE MUDDY RIVERS, WILL BE IMPROVED AND PROTECTED.

Objective 1. Continue to implement stormwater management program.

GOAL II: STRENGTHEN PROTECTION OF BROOKLINE'S NATURAL RESOURCES BY CREATING INFRASTRUCTURE THAT MINIMIZES THE DELETERIOUS IMPACTS TO WATER RESOURCES WHILE ACHIEVING ADDITIONAL COMMUNITY GOALS.

Objective 1. Use technologies and Best Management Practices that meet emerging regulations and support additional community and open space goals.

Objective 2. Identify opportunities to fund stormwater infrastructure improvements.

Objective 3. Develop green streets where appropriate.

Objective 4. Consider "green infrastructure" opportunities with all new projects.

Objective 5. Where possible, ensure that infrastructure upgrades benefit both resources and open space.

Objective 6. Consider filling gaps in greenways with green streets.

GOALS AND OBJECTIVES

E. Habitat and Wildlife

GOAL I: HABITAT FOR NATIVE WILDLIFE AND PLANTS WILL BE PRESERVED, RESTORED AND CREATED, AND STRATEGIES TO PROMOTE PEACEFUL CO-EXISTENCE BETWEEN WILDLIFE AND HUMANS WILL BE DEvised.

Objective 1. Preserve wildlife habitat, including identifying and protecting wildlife corridors.

Objective 2. Devise policies and programs that promote and protect plant and animal biodiversity.

Objective 3. Establish a municipal policy for wildlife management.

F. Parks and Recreation Lands

GOAL I: PARK AND RECREATION LAND WILL BE MAINTAINED, REFURBISHED AND EXPANDED.

Objective 1. Ensure comprehensive planning for open space recreational use.

Objective 2. Expand the properties available for active and passive recreational use.

Objective 3. Preserve and enhance protections for the Town's sanctuaries.

Objective 4. Restore and refurbish the Town's parks.

Objective 5. Create opportunities for institutions and individuals to help care for the Town's open spaces.

Objective 6. Fund the improved maintenance of parks and open spaces.

GOAL II: ADD PROPERTIES TO BROOKLINE'S PARK SYSTEM THAT SPECIFICALLY SERVE THE NEEDS OF PASSIVE RECREATION.

Objective 1. Ensure that the goal of adding properties to Brookline's park system that specifically serve the needs of passive recreation, is met as laid out in the 2006 Parks, Open Space and Recreation Strategic Master Plan.

G. Urban Forest

GOAL I: MAINTAIN APPROPRIATE STANDARDS OF CARE OF THE PUBLIC URBAN FOREST.

Objective 1. Restore full-time position of Town Arborist to protect public street trees.

Objective 2. Increase staff available to work with the Town Arborist to maintain the urban forest.

Objective 3. Ensure that Capital Improvements Program (CIP) funding remains at an adequate level to protect urban forest.

Objective 4. Consider other methods to ensure or increase funding for street tree care, including earmarking insurance reimbursements for damaged street trees to be used for care of street trees.

Objective 5. Promote contributions to the Special Tree Planting Fund for purchase, planting, and/or ongoing maintenance of significant public trees.

II. COMMUNITY GOALS

A. Recreation

GOAL I: RECREATIONAL OPPORTUNITIES IN OPEN SPACE AREAS WILL BE SUPPORTED AND EXPANDED.

Objective 1. Use creative means to acquire, share, repurpose or access additional facilities and public spaces.

Objective 2. Enhance cost recovery and business planning.

B. Education, Outreach and Advocacy

GOAL I: INCREASE EFFORTS TO ENGAGE WITH THE COMMUNITY FOR THEIR BENEFIT AS WELL AS TO FURTHER THE GOALS OF THE OPEN SPACE PLAN.

Objective 1. Create active collaboration among groups providing environmental education and programming for children, families, and adults, in order to reach more residents and present more consistent perspectives on stewardship and conservation.

Objective 2. Build community support and advocacy for open space, conservation, recreation, resource protection, and for ongoing maintenance of Town-owned open space.

Objective 3. Increase public awareness of open space and related environmental issues through outlets such as print and on-line media, targeted events and programs, annual presentation of Brookline's achievements to date, and other public awareness activities.

Objective 4. Educate the public about the links between open space and climate change mitigation and adaptation.

Objective 5. Advocate for improved access to open spaces by people with disabilities.

GOAL II: ENHANCE BROAD UNDERSTANDING OF GREEN CORRIDORS/OPEN SPACE FUNCTIONS AND VALUES, IN PARTICULAR WITH REGARD TO STORMWATER, GROUNDWATER, CLIMATE, AND WILDLIFE.

Objective 1. Actively engage with other community groups to identify shared goals and objectives.

Objective 2. Consider opportunities for workshops, seminars to educate public.

Objective 3. Engage school community through appropriate areas of curriculum.

Objective 4. Encourage use of open space and greenways for walking and biking to reduce carbon emissions.

GOAL III: TIE INFRASTRUCTURE UPGRADES INTO COMMUNITY INTERESTS, AND AWARENESS-BUILDING ABOUT SUSTAINABILITY AND STEWARDSHIP.

Objective 1. Increase public awareness of infrastructure and resources.

GOALS AND OBJECTIVES

Objective 2. Increase public understanding of linkages between infrastructure and resource management, including climate change, watershed management, pollution, health, and well-being.

C. Financing Open Space Initiatives

GOAL I: INCREASE FINANCING OF THE LAND ACQUISITION FUND TO ENABLE PROACTIVE LAND ACQUISITION AND/OR PURCHASE OF RIGHTS OF FIRST REFUSAL.

Objective 1. Study the feasibility of designating a percentage of Town revenue specifically for the existing Land Acquisition Fund.

Objective 2. Find opportunities to designate funds for the Land Acquisition Fund in the context of development or other relevant revenue streams.

GOAL II: ESTABLISH A COMMITTEE TO RESEARCH AND DEVELOP SOLUTIONS TO FUND SIGNIFICANT ENVIRONMENTAL FEATURES WHEN THEY ARE AT IMMINENT RISK OF LOSS.

Objective 1. Develop municipal funding mechanisms and procedures for protecting at-risk land and environmental features.

Objective 2. Research outside funding sources, such as individual gifts, challenge grants, and ongoing foundation grants.

Objective 3. Identify outside third parties, such as land trusts and non-profits, to ensure a non-governmental system of protecting or acquiring land when municipal funding is not possible.

GOAL III: MAINTAIN OR INCREASE FUNDS DESIGNATED FOR THE ONGOING MAINTENANCE AND MANAGEMENT OF OPEN SPACES.

Objective 1. Develop funding sources to maintain the level of maintenance and staff dedicated for parks and open spaces.

Objective 2. Implement funding strategies to reinstate crucial staff and to add new staff if feasible to ensure that significant capital investments in open space during the last decade are not undermined.

III. MANAGEMENT GOALS

A. Better Municipal Coordination

GOAL I: OPEN SPACE OBJECTIVES WILL BE ACHIEVED THROUGH COORDINATED GOVERNMENT ACTION.

Objective 1. Achieve better municipal interdepartmental coordination.

Objective 2. Work with adjacent municipalities to identify ways in which joint action could benefit shared open space properties.

Objective 3. Ensure that the Parks and Open Space Division is fully supported in its ongoing maintenance activities, as set forth by an appropriate management plan, by providing appropriate levels of funding.

Objective 4. Support and strengthen links between open space goals and other environmental goals.

Objective 5. Plan for proactive land acquisition and funding opportunities for acquisition, even in planning areas not traditionally geared to open space issues.

B. Complying with Stormwater Regulations

GOAL I: MANAGE TOWN PROJECTS TO ALLOW IMPROVEMENTS TO EXISTING GREENWAYS WHEN POSSIBLE AND SEEK OPPORTUNITIES FOR NEW GREENWAYS.

Objective 1. Ensure that all Town projects consider opportunities for adding vegetation, enhancing greenways, and improving open space.

GOAL II: USE NEW DEVELOPMENT AND REDEVELOPMENT AS AN OPPORTUNITY TO MAKE IMPROVEMENTS IN INFRASTRUCTURE, AND TO REDUCE IMPACTS TO RESOURCES.

Objective 1. Reduce impervious cover over time.

Objective 2. Consider potential alternatives to conventional infrastructure during Capital Improvements Program (CIP) planning process.

Objective 3. All future municipal projects should consider green infrastructure alternatives, including projects that are not part of the Capital Improvements Program.

C. Public-Private Partnerships

GOAL 1: USE PUBLIC-PRIVATE PARTNERSHIPS WHERE APPROPRIATE TO FURTHER OPEN SPACE GOALS.

Objective 1. Encourage public-private partnerships.

Objective 2. Collaborate among local advocacy groups and Town agencies to protect the existing uses of open space.

D. Regional Planning

GOAL I: DEVISE MANAGEMENT STRATEGIES THAT ADDRESS CURRENT ENVIRONMENTAL CHALLENGES, INCLUDING CLIMATE CHANGE AND NON-NATIVE INVASIVE SPECIES.

Objective 1. Consider potential impacts of climate change in management decisions, including decisions regarding vegetation for cooling or flood control, and habitat buffers to counter stresses and enable wildlife migration.

Objective 2. Devise management strategies to address non-native invasive species.

GOAL II: STRENGTHEN CONNECTIONS TO GREEN SPACES IN NEIGHBORING COMMUNITIES.

Objective 1. Communicate with staff and/or environmental advocates in neighboring communities to enable formation of strategies to strengthen connections between green spaces.

SECTION 9

FIVE YEAR ACTION PLAN

This Five-Year Action Plan is based on the Goals and Objectives set forth in the preceding section. The accomplishment of this Plan will depend upon active support from a variety of parties, including many outside of Brookline government. Nevertheless, because this is a Town plan, the Five-Year Action Plan identifies only Town boards, commissions, committees or departments to which responsibility is assigned for initiating or monitoring progress on individual action items. The Plan also identifies target dates for the accomplishment of action items. Some action items will require continuing attention and will be ongoing until the next Open Space Plan. An Open Space Plan Monitoring Committee, led by the Conservation Commission and Brookline GreenSpace Alliance will annually track progress on the Action Plan.

I. RESOURCE PROTECTION GOALS

A. Unprotected Open Space

Objective 1. Reach out to property owners of priority unprotected open spaces to discuss potential protection of these open spaces.

Actions:

1. Set up meetings with each property owner of the priority unprotected open spaces to discuss possible protection strategies.

Conservation Commission (2012)

Objective 2. Establish a committee for open space acquisition, to consider relevant factors in identifying parcels with significant open space value.

Actions:

1. Work with the Board of Selectmen to develop a committee structure and timeline for completing a final report.

Board of Selectmen, Conservation Commission (2011)

2. Establish priorities for identifying open spaces for possible acquisition.

Board of Selectmen, Conservation Commission (2012)

Objective 3. Develop procedures to determine whether parcels available for acquisition are significant to the interests of open space, including designating who will decide and how the decision will be made.

Actions:

1. Work with the Board of Selectmen and appropriate committees to develop draft procedures for the decision process to be used when considering the acquisition of open spaces.

Board of Selectmen, Conservation Commission, Parks and Open Space Division, Assessors Department (2012)

2. Develop and prepare the guidelines for presentation to the community through a series of community and neighborhood meetings.

Conservation Commission (2013)

FIVE YEAR ACTION PLAN

3. Present a final set of guidelines to the Board of Selectmen for their review and approval.
Conservation Commission (2014)

Objective 4. Establish and follow specific protocols for reaching out to private owners of significant parcels.

Actions:

1. Establish outreach protocol.
Conservation Commission (2011)

2. Reach out to private owners utilizing outreach protocol.
Conservation Commission (2012)

Objective 5. Increase protection of publicly owned open space that is not currently protected from development by placing under Article 97 protection, or other appropriate protection.

Actions:

1. Develop a working group that includes the appropriate representation from various Town departments to identify those parcels under their respective controls that are not currently under Article 97 protection.
Planning Department, Conservation Commission, Assessors Department, Board of Selectmen (2012)

2. Identify the most appropriate method of protection for each of the parcels.
Planning Department, Conservation Commission, Assessors Department, Board of Selectmen (2013)

3. Place the appropriate level of protection on the parcels that have been identified.
Planning Department, Conservation Commission, Assessors Department, Board of Selectmen (2014)

4. Ensure that all Town parks and open spaces are recorded at the Registry of Deeds as protected under Article 97 or other appropriate protection.
Parks and Open Space Division (2014)

5. Consider protection for small open spaces and corridors such as greenways or green streets.
Parks and Open Space Division, Conservation Commission (2015)

Objective 6. Encourage conservation restrictions for land with significant conservation value even when public access is not an option.

Actions:

1. See Objectives 1 and 4.
Conservation Commission (2011)

Objective 7. Encourage conservation restrictions with public access, including areas of open space and potential for green features within the built environment.

Actions:

1. See Objectives 1 and 4.
Conservation Commission (2011)

2. Ensure new development and redevelopment projects include conservation restrictions whenever possible to ensure the publicly-accessible open space is protected.
Conservation Commission, Planning Department, Building Department (2012)

Objective 8. Identify and establish tools for protecting or creating open space and “green” features in the context of building and redevelopment.

Actions:

1. See Objective 7.

Conservation Commission, Planning Department, Building Department (2011)

2. Work with relevant Town departments on identifying and establishing other tools for both Town projects and private projects, when appropriate and possible. Possibly planned development districts or zoning overlay districts.

Conservation Commission, Planning Department, Zoning By-Law Committee (2013)

Objective 9. Determine changes in the Zoning By-Law that could eliminate negative impacts on open space and changes to better protect open space and green features in the context of development.

Actions:

1. Work with the Zoning By-Law Committee to review opportunities for additional protections.

Conservation Commission, Zoning By-Law Committee (2012)

Objective 10. Consider use of overlay districts to protect open space.

Actions:

1. Work with the Zoning By-Law Committee to review opportunities for additional protections.

Conservation Commission, Planning Department, Zoning By-Law Committee (2012)

2. Work with the Planning and Community Development Department to effect changes to the zoning districts of the Town where it is appropriate to do so, as determined by the Zoning By-Law Committee.

Conservation Commission, Planning Department, Zoning By-Law Committee (2014)

Objective 11. Consider use of buffers or cluster zoning to protect green corridors.

Actions:

1. Work with the Planning and Community Development Department to identify where buffers or cluster zoning may be utilized to protect green corridors, as determined by the Zoning By-Law Committee.

Conservation Commission, Planning Department, Zoning By-Law Committee (2014)

B. Green Corridors

Objective 12. Identify, publicize and protect significant green corridors of all types.

Actions:

1. Ensure information on existing green corridors is easily accessible to the public.

Conservation Commission, Transportation Division (2012)

2. See Objective 15.

Conservation Commission (2013)

FIVE YEAR ACTION PLAN

Objective 13. Identify possible sources of funds for green corridor improvements and protection.

Actions:

1. Research and seek out public, private, and public-private partnership dollars and resources in a systematic, consistent manner.

Conservation Commission, Transportation Division (2013)

Objective 14. Develop a system to prioritize green corridors depending on values (wildlife, scenic, bicycle and pedestrian, connectivity, stormwater management).

Actions:

1. Develop a working group with representatives from the Conservation Commission, the Bicycle Advisory Committee, the Engineering and Transportation Divisions, the Parks and Open Space Division, and members of the public to develop the standards to be used during this prioritization process.

Bicycle Advisory Committee, Transportation Division, Conservation Commission, Parks and Open Space Division (2012)

2. Apply the standards to the green corridors to establish their priority levels.

Bicycle Advisory Committee, Transportation Division, Conservation Commission, Parks and Open Space Division (2014)

Objective 15. Work with state agencies to identify wildlife corridors and inform the public about them.

Actions:

1. Identify the appropriate state agencies to engage for this process.

Conservation Commission (2011)

2. Gather and disseminate the information on wildlife corridors to the public.

Conservation Commission (2011)

Objective 16. Improve safety and aesthetics for pedestrians and bicycles on greenways.

Actions:

1. Work with the Transportation Administrator and the Bicycle Advisory Committee to identify and implement safety and aesthetic improvements through the Capital Improvements Program (CIP).

Bicycle Advisory Committee, Transportation Division, Conservation Commission, Advisory Committee (2015)

Objective 17. Consider opportunities for adding vegetation, including stormwater management, and shading to reduce heat island effect to all street projects.

Actions:

1. Work with the Engineering Division to identify and implement measures to reduce the heat island effect, utilizing CIP or Chapter 90 funds.

Engineering Division, Transportation Division, Conservation Commission (2013)

Objective 18. Consider potential for zoning overlay district to protect green corridors.

Actions:

1. See Objective 9.

Conservation Commission, Transportation Division, Zoning By-Law Committee (2014)

Objective 19. Identify gaps in green corridors.

Actions:

1. Conduct analysis to identify gaps that impede the use and enjoyment of the greenways by users, or that impede the use and value of wildlife corridors for wildlife.

Engineering Division, Transportation Division, Conservation Commission (2015)

Objective 20. Identify streets and roads with potential to be greenways.

Actions:

1. Develop a working group with representatives from the Conservation Commission, the Bicycle Advisory Committee, the Engineering and Transportation Divisions, the Parks and Open Space Division, and members of the public to identify streets and roads with potential to be greenways.

Board of Selectmen, Bicycle Advisory Committee, Transportation Division, Conservation Commission, Parks and Open Space Division (2013)

Objective 21. Identify priority wildlife corridors using aerial photography and other tools.

Actions:

1. Work with the GIS Department to identify possible wildlife corridors.

Conservation Commission, Transportation Division (2012)

Objective 22. Identify and develop pilot projects drawing on novel ways of creating greenways.

Actions:

1. Research and apply newer techniques and technologies to a pilot greenway project in Brookline.

Engineering Division, Transportation Division, Conservation Commission (2014)

C. Wetlands

Objective 23. Ensure a high level of protection for Brookline's remaining fragile wetlands.

Actions:

1. Continue efforts to certify vernal pools.

Conservation Commission (2011)

2. Develop educational brochures that describe wetlands, their functions and their environmental values, which will be provided to those who initiate wetlands permitting processes.

Conservation Commission (2010)

FIVE YEAR ACTION PLAN

3. Increase coordination with the Building Department for the review of building permits.

Conservation Commission, Building Department (2010)

Objective 24. Improve water quality in Town surface waters, including rivers, brooks, ponds and lagoons.

Actions:

1. Continue commitment to Muddy River Restoration Project.

Conservation Commission, Board of Selectmen (2010)

2. Pursue illegal connections and identify other sources of reduced water quality at Saw Mill Brook in D. Blakely Hoar Sanctuary.

Engineering Division, Conservation Commission (2010)

3. Initiate public education regarding the impact of fertilizers, herbicides, and de-icing chemicals on surface water quality.

Conservation Commission (2011)

Objective 25. Identify ways to apply further protections for wetland buffer zones and/or to expand wetland buffer zones.

Actions:

1. Research appropriate methods to increase buffer zone that would be applicable to Brookline.

Conservation Commission, Zoning By-Law Committee (2013)

Objective 26. Further develop specific protocols for Conservation review of building permit applications for projects which are located within a wetland buffer zone or resources area.

Actions:

1. See Objective 23.

Conservation Commission, Building Department (2011)

D. Watersheds and Infrastructure

Objective 27. Continue to implement stormwater management program.

Actions:

1. Work with the Engineering Division to implement Stormwater By-Law.

Conservation Commission, Engineering Division (2010)

Objective 28. Use technologies and Best Management Practices that meet emerging regulations and support additional community and open space goals.

Actions:

1. Continue to work with the Engineering Division to identify opportunities for green infrastructure and storm water practices that support open space goals.

Conservation Commission, Engineering Division (2011)

2. See Objective 17.
Conservation Commission, Engineering Division (2011)

Objective 29. Identify opportunities to fund stormwater infrastructure improvements.

Actions:

1. Convene task force to consider storm water funding needs and potential revenue sources, including possible storm water fee or utility.
Conservation Commission, Engineering Division (2012)

Objective 30. Develop green streets where appropriate.

Actions:

1. Work with the Engineering and Transportation Divisions to develop support for Green Streets.
Conservation Commission, Engineering Division, Transportation Division (2011)

2. Identify potential candidate pilot Green Street projects.
Conservation Commission, Engineering Division, Transportation Division (2012)

3. Identify funds and begin planning for implementation of pilot.
Conservation Commission, Engineering Division, Transportation Division, Advisory Committee (2013)

Objective 31. Consider “green infrastructure” opportunities with all new projects.

Actions:

1. Work with the Engineering Division to develop a list of possible technologies to consider with new projects.
Conservation Commission, Engineering Division (2012)

2. See Objective 28.
Conservation Commission, Engineering Division (2011)

Objective 32. Where possible, ensure that infrastructure upgrades benefit both resources and open space.

Actions:

1. See Objective 31.
Conservation Commission, Engineering Division (2010)

Objective 33. Consider filling gaps in greenways with green streets.

Actions:

1. See Objective 19.
Conservation Commission, Engineering Division, Transportation Division, Advisory Committee (2015)

E. Habitat and Wildlife

Objective 34. Preserve wildlife habitat, including identifying and protecting wildlife corridors.

Actions:

1. Inventory populations of native plants and animals, monitor the populations over time, and use this information to make decisions about what habitat to protect.

Conservation Commission (2014)

2. Educate the public about wildlife habitat and its value for Brookline, including buffering effects of climate change.

Conservation Commission (2011)

3. Encourage preservation of wildlife habitat within Town-owned open spaces.

Conservation Commission (2010)

3. See Objectives 9 and 10.

Conservation Commission (2012)

4. See Objective 15.

Conservation Commission (2011)

Objective 35. Devise policies and programs that promote and protect plant and animal biodiversity.

Actions:

1. Educate the public about plant and animal biodiversity and its value for Brookline.

Conservation Commission (2012)

2. Promote stewardship of native plants and animals.

Conservation Commission (2011)

3. Discourage and eradicate non-native invasive plant species, and encourage planting of native species on Town-owned properties.

Conservation Commission (2011)

Objective 36. Establish a municipal policy for wildlife management.

Actions:

1. Work with the existing inter-departmental animal control/wildlife management committee to develop a formal wildlife policy.

Conservation Commission, Animal Control/Wildlife Management Committee (2012)

F. Parks and Recreation Lands

Objective 37. Ensure comprehensive planning for open space recreational use.

Actions:

1. Review the 2006 Parks, Open Space and Recreation Strategic Master Plan and ensure that ongoing activities are in line with the recommendations of the plan.
Conservation Commission, Parks and Open Space Division, Park and Recreation Commission (2010)

Objective 38. Expand the properties available for active and passive recreational use.

Actions:

1. See Objectives 2 and 3.
Parks and Open Space Division, Recreation Department, Conservation Commission (2012)

Objective 39. Preserve and enhance protections for the Town's sanctuaries.

Actions:

1. Complete Management Plans for Town sanctuaries.
Conservation Commission (2014)
2. Ensure adequate budgets to fund maintenance and improvements in sanctuaries.
Conservation Commission (2011)

Objective 40. Restore and refurbish the Town's parks.

1. Renovate Billy Ward Playground. This project includes new play equipment for tots and older children, new perimeter fencing, improved accessibility, reconstruction of the existing retaining wall, rehabilitation of pathways and stairs, landscape improvements to entrances, consideration of picnic/passive areas, review of spray pool utilities, and rehabilitation of the planted seating area.
Parks and Open Space Division, \$660,000, CIP, FY 2012
2. Renovate Brookline Ave. Playground. This project includes renovation of playground equipment and the athletic field, and new safety surfacing and accessibility improvements.
Parks and Open Space Division, \$835,000, CIP, FY 2014-2015
3. Renovate Brookline Reservoir Park. This project includes repair and expansion of the jogging/walking track, renovation of the stone basin wall, masonry, fencing, new path surfacing and ADA entry points, site furniture and planting.
Parks and Open Space Division, \$1,400,000, CIP, FY 2016
4. Restore Brookline Reservoir Gatehouse. This project includes preservation and restoration of the historic gatehouse and gatehouse roof, including restoring the ends of the trusses and resecuring them to the original iron roof, and replacing the present standing-seam steel roof, as well as carpentry, stair, and masonry repairs.
Parks and Open Space Division, \$650,000, CIP, MHC Grant, FY 2016
5. Renovate Clark Playground. This project includes redesign and renovation of the walkways, circulation, park furniture, play equipment, water fountains, site drainage, lighting, turf, and hard court play areas.
Parks and Open Space Division, \$510,000, CIP, FY 2012

FIVE YEAR ACTION PLAN

6. Renovate Corey Hill Playground. This project includes design work for complete replacement of the play structures, review of layout and design of the playground, site masonry work, benches, walkways, planting, and other site amenities.

Parks and Open Space Division, \$570,000, CIP, FY 2015-2016

7. Design and construct Fisher Hill Reservoir Park. This project includes the creation of a new community park with an athletic field, parking, tree-lined walking paths, naturalistic buffers, native woodlands, and restoration of the gatehouse.

Parks and Open Space Division, \$2,450,000, CIP, LWCF Grant, Sale of Town-owned land, FY 2014

8. Complete design work to renovate Harry Downes Field and Playground. This project includes replacement of play equipment, installation of a water play/spray pool amenity, renovation of the softball field, and construction of an improved comfort station/field house.

Parks and Open Space Division, \$75,000, CIP, FY 2016

9. Rehabilitate Larz Anderson Park. This project includes replacement of a retaining wall, renovation of the main roadway and installation of support drainage structures and swales, and repair/replacement of pedestrian pathways.

Parks and Open Space Division, \$650,000, CIP, 2012-FY 2015

10. Renovate Soule. This project includes redesign and renovations of circulation and stormwater management, including design and construction for increased capacity, and improvements to parking areas, pathway connections, linkages to the Baldwin School, storm drainage improvements, and construction of new athletic fields.

Parks and Open Space Division, \$560,000, CIP, FY 2015-2016

11. Renovate Waldstein Playground. This project includes replacement of play equipment, including swings and sand play, renovation of the spray pool area, drinking fountains, field, tennis courts, and pathways.

Parks and Open Space Division, \$1,280,000, CIP, FY 2012-2013

12. Renovate Warren Field/Playground. This project includes design and development of park improvements, new installation of play equipment for toddlers and older children, signage, tree pruning, planting, field restoration, new backstop and players' benches, trash receptacles, pathways, and lighting.

Parks and Open Space Division, \$860,000, CIP, FY 2012-2013

13. Restore Old Burying Ground. This project includes restoring the perimeter walls, markers and footstones, tombs, and monuments, as well as landscape improvements.

Parks and Open Space Division, \$250,000, CIP, FY2013

14. Complete other projects related to parks and playgrounds rehabilitation and update, Town/school grounds rehabilitation, tennis courts/basketball courts, comfort stations, and tree removal and replacement, as identified in the Capital Improvements Program.

Parks and Open Space Division, Varies

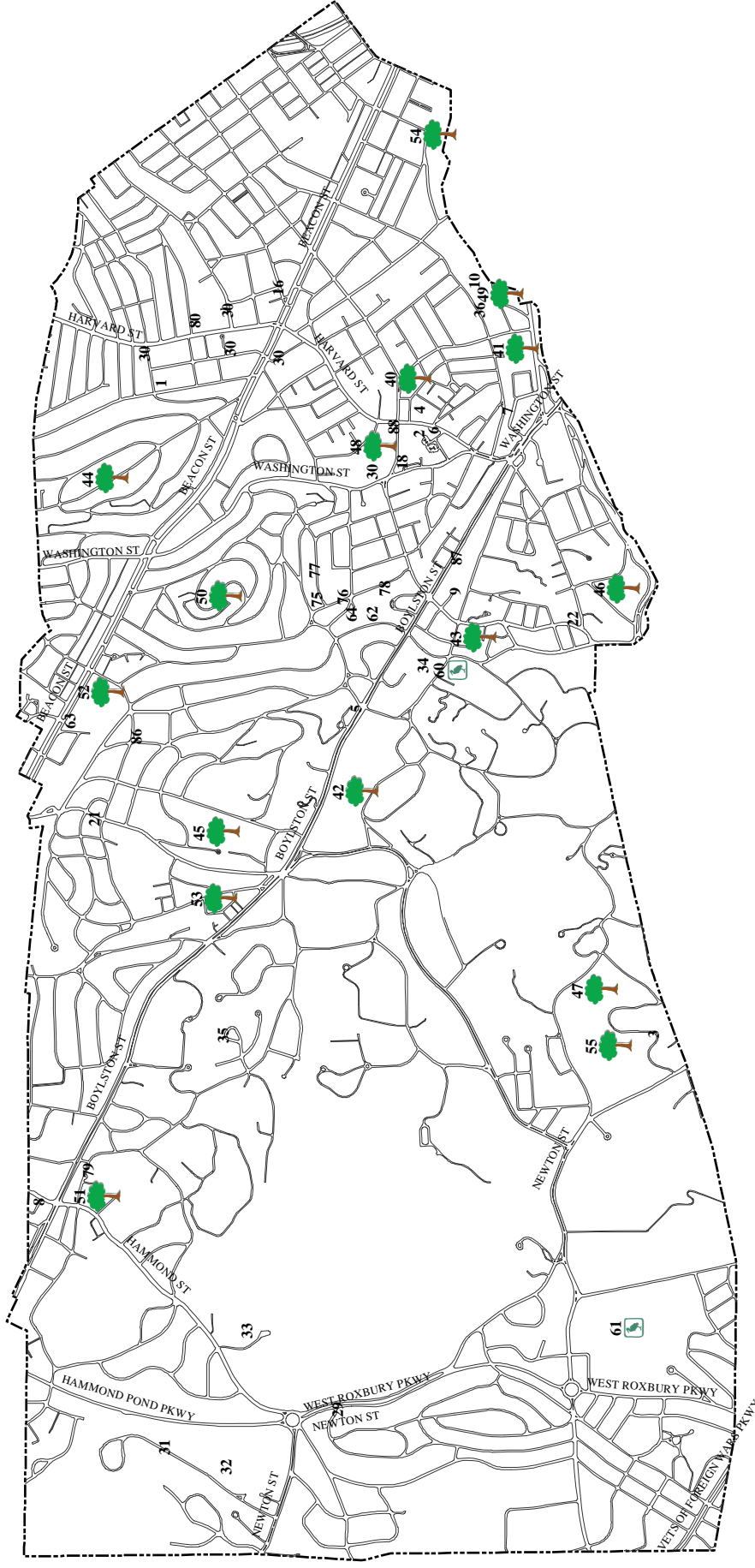
Objective 41. Create opportunities for institutions and individuals to help care for the Town's open spaces.

Actions:

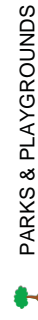
1. Encourage the work of Friends groups, environmental groups and other organization and institutions.

Conservation Commission, Park and Recreation Commission (2011)

Recommended Capital Improvement Project Locations for Parks & Open Spaces (FY 2012- 2016)



Legend



PARKS & PLAYGROUNDS



CONSERVATION/ OPEN SPACE

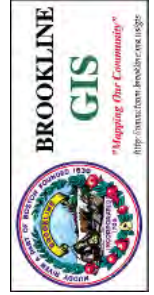
Note:

Parks & Playgrounds includes Billy Ward Playground, Brookline Ave. Playground, Brookline Reservoir Park, Clark Playground, Corey Hill Playground, Harry Downes Field, Fisher Hill Reservoir, Larz Anderson Park, Soule, Waldstein Playground & Warren Field Playground.
Conservation & Open Space include the Old Burying Ground.

Future year projects include Pierce Playground, Riverway Park, Schick Playground, Carlton St. Footbridge - Muddy River Restoration Project & Walnut Hills Cemetery.



0 1,000 2,000 4,000 Feet



Map created by Brookline GIS on 05/03/2011

FIVE YEAR ACTION PLAN

Objective 42. Fund the improved maintenance of parks and open spaces.

Actions:

1. Work with appropriate Town staff with support from community groups to ensure appropriate levels for funding are maintained for the parks and open spaces.

Dept. of Public Works, Parks and Open Space Division, Board of Selectmen, Advisory Committee (2011)

Objective 43. Ensure that the goal of adding properties to Brookline's park system that specifically serve the needs of passive recreation, is met as laid out in the 2006 Parks, Open Space and Recreation Strategic Master Plan.

Actions:

1. Identify opportunities to add properties for passive recreation in both North and South Brookline.

Conservation Commission, Park and Recreation Commission (2013)

2. See Objective 2.

Conservation Commission, Park and Recreation Commission (2013)

G. Urban Forest

Objective 44. Restore full-time position of Town Arborist to protect public street trees.

Actions:

1. Work with Advisory Committee and appropriate staff to determine feasibility of restoring arborist to full-time status to protect public street trees.

Tree Planting Committee, Conservation Commission, Park and Recreation Commission (2011)

Objective 45. Increase staff available to work with the Town Arborist to maintain the urban forest.

Actions:

1. Compare current staffing levels against national standards to ensure that staffing levels are appropriate.

Tree Planting Committee (2011)

Objective 46. Ensure that Capital Improvements Program (CIP) funding remains at an adequate level to protect urban forest.

Actions:

1. Compare Capital Improvements Program urban forest budget with inflation indicators to assess cost escalation impacts on the funding levels.

Tree Planting Committee (2012)

Objective 47. Consider other methods to ensure or increase funding for street tree care, including earmarking insurance reimbursements for damaged street trees to be used for care of street trees.

Actions:

1. Establish a working group with Deputy Town administrator, etc. to investigate appropriate needs and methods to ensure reimbursements for trees.

Tree Planting Committee, Deputy Town Administrator (2011)

Objective 48. Promote contributions to the Special Tree Planting Fund for purchase, planting, and/or ongoing maintenance of significant public trees.

Actions:

1. Reach out to community environmental or green groups and other interested parties to ask for their assistance in publicizing this fund.

Tree Planting Committee (2012)

2. Reach out to the general public to educate them about this fund.

Tree Planting Committee (2013)

II. COMMUNITY GOALS

A. Recreation

Objective 49. Use creative means to acquire, share, repurpose or access additional facilities and public spaces.

Actions:

1. Locate and build new multi-purpose fields and ball fields.

Park and Recreation Commission (2013)

2. Maximize and formalize the partnership with Brookline Schools, both private and public.

Park and Recreation Commission, School Committee (2012)

3. Maximize and formalize the partnership with local institutions and organizations.

Park and Recreation Commission (2012)

4. Look at additional and alternative funding mechanisms.

Park and Recreation Commission (2012)

Objective 50. Enhance cost recovery and business planning.

Actions:

1. Create and implement a clear Pricing and Cost Recovery Policy.

Park and Recreation Commission (2014)

2. Create and adopt a Strategic Business Plan.

Park and Recreation Commission (2012)

FIVE YEAR ACTION PLAN

3. Continue to look at user fees and ensure fees are appropriate with level of service provided.
Park and Recreation Commission (2011)

B. Education, Outreach and Advocacy

Objective 51. Create active collaboration among groups providing environmental education and programming for children, families, and adults, in order to reach more residents and present more consistent perspectives on stewardship and conservation.

Actions:

1. Bring together representatives from all the organizations doing environmental education and outreach to determine what everyone is currently doing.

Park and Recreation Commission, Parks and Open Space Division, School Committee, Conservation Commission (2012)

2. Develop strategies to fill in any gaps.

Park and Recreation Commission, Parks and Open Space Division, School Committee, Conservation Commission (2013)

Objective 52. Build community support and advocacy for open space, conservation, recreation, resource protection, and for ongoing maintenance of Town-owned open space.

Actions:

1. Continue to strengthen effective delivery of information regarding these topics and disseminate information.

Park and Recreation Commission, Parks and Open Space Division, Conservation Commission (2012)

Objective 53. Increase public awareness of open space and related environmental issues through outlets such as print and on-line media, targeted events and programs, annual presentation of Brookline's achievements to date, and other public awareness activities.

Actions:

1. See Objective 52.

Park and Recreation Commission, Parks and Open Space Division, Conservation Commission (2013)

Objective 54. Educate the public about the links between open space and climate change mitigation and adaptation.

Actions:

1. Work with the Selectmen's Climate Action Committee and Climate Change Action Brookline to ensure appropriate information is disseminated to the public at large.

Climate Action Committee, Climate Change Action Brookline, Board of Selectmen (2012)

Objective 55. Advocate for improved access to open spaces by people with disabilities.

Actions:

1. Work with ADA Coordinator and Commission For The Disabled to improve and maintain features which improve access to open spaces.

Conservation Commission, Park and Recreation Commission, Commission on Disabilities (2012)

2. Publicize the open spaces that are accessible to people with disabilities.

Conservation Commission, Park and Recreation Commission, Commission on Disabilities (2013)

Objective 56. Actively engage with other community groups to identify shared goals and objectives.

Actions:

1. Establish a working group with representatives with an interest in storm water, groundwater, climate, and wildlife to identify goals and objectives.

Conservation Commission, Engineering Division (2012)

Objective 57. Consider opportunities for workshops, seminars to educate public.

Actions:

1. Identify appropriate topics, speakers, settings, and times, and coordinate workshops and/or seminars.

Conservation Commission, Parks and Open Space Division (2012)

Objective 58. Engage school community through appropriate areas of curriculum.

Actions:

1. Set up a meeting with curriculum coordinators for the School Department to determine appropriate placement within the curriculum.

Conservation Commission, Engineering Division, School Committee (2012)

Objective 59. Encourage use of open space and greenways for walking and biking to reduce carbon emissions.

Actions:

1. Assess open spaces and greenways to determine which areas are appropriate for walking and biking.

Transportation Board, Conservation Commission, Bicycle Committee (2012)

2. Disseminate findings of study to the public at large.

Transportation Board, Conservation Commission, Bicycle Committee (2013)

3. See Objective 2.

Transportation Board, Conservation Commission, Bicycle Committee (2014)

Objective 60. Increase public awareness of infrastructure and resources.

Actions:

1. Develop educational materials about infrastructure and its impact on resources.

Engineering Division, Conservation Commission (2012)

2. Utilize pilot projects, as set forth in Objective 30, to increase public awareness.

Engineering Division, Conservation Commission (2014)

FIVE YEAR ACTION PLAN

Objective 61. Increase public understanding of linkages between infrastructure and resource management, including climate change, watershed management, pollution, health, and well-being.

Actions:

1. Work with groups such as the Selectmen's Climate Action Committee, Climate Change Action Brookline, Charles River Watershed Association, Health Department, and appropriate state and federal agencies, to clarify and better understand the links between infrastructure and resource management.
Conservation Commission, Climate Action Committee, Climate Change Action Brookline (2013)

C. Financing Open Space Initiatives

Objective 62. Study the feasibility of designating a percentage of Town revenue specifically for the existing Land Acquisition Fund.

Actions:

1. Consider using a funding mechanism which would consistently designate a portion of the Town revenue for the existing Land Acquisition Fund.
Deputy Town Administrator, Conservation Commission, Brookline GreenSpace Alliance (2012)

Objective 63. Find opportunities to designate funds for the Land Acquisition Fund in the context of development or other relevant revenue streams.

Actions:

1. Study the feasibility of impact fees or other mechanisms to designate funds.
Deputy Town Administrator, Conservation Commission, Brookline GreenSpace Alliance (2012)

Objective 64. Develop municipal funding mechanisms and procedures for protecting at-risk land and environmental features.

Actions:

1. Establish a standing committee of appropriate municipal officials and representatives from the community to be available to address any issues and opportunities that arise in a timely fashion when needed.
Board of Selectmen, Conservation Commission (2012)

Objective 65. Research outside funding sources, such as individual gifts, challenge grants, and ongoing foundation grants.

Actions:

1. Committee set forth in Objective 63 should research funding sources.
Board of Selectmen, Conservation Commission (2013)

Objective 66. Identify outside third parties, such as land trusts and non-profits, to ensure a non-governmental system of protecting or acquiring land when municipal funding is not possible.

Actions:

1. Committee set forth in Objective 63 should identify outside third parties.

Board of Selectmen, Conservation Commission (2013)

2. Committee set forth in Objective 63 should establish relationships with outside parties to discuss proactively land protection options.

Board of Selectmen, Conservation Commission (2014)

Objective 67. Develop funding sources to maintain the level of maintenance and staff dedicated for parks and open spaces.

Actions:

1. Work with the Parks and Open Space Division and advocacy groups to advocate for appropriate levels of funding.

Conservation Commission, Brookline GreenSpace Alliance (2012)

2. Strengthen ties to public health community in support of funding.

Conservation Commission, Health Department, Brookline GreenSpace Alliance (2015)

Objective 68. Implement funding strategies to reinstate crucial staff and to add new staff if feasible to ensure that significant capital investments in open space during the last decade are not undermined.

Actions:

1. Work with climate change advocates, public health advocates, open space advocates and appropriate Town staff on identifying shared long-term priorities and goals.

Conservation Commission, Climate Action Committee, Climate Change Action Brookline (2013)

2. Ensure that the CIP and operations budgets are well coordinated so significant capital investments are not undermined.

Conservation Commission, Planning Board, Brookline GreenSpace Alliance (2012)

III. MANAGEMENT GOALS

A. Better Municipal Coordination

Objective 69. Achieve better municipal interdepartmental coordination.

Actions:

1. Improve coordination of permit review for wetlands, storm water, open space and tree protection issues, with Zoning, Building, Engineering and Planning permits and departments.

Conservation Commission, Building Department, Information Technology Department, Engineering Division (2012)

FIVE YEAR ACTION PLAN

Objective 70. Work with adjacent municipalities to identify ways in which joint action could benefit shared open space properties.

Actions:

1. See Objective 81.
Conservation Commission (2013)

Objective 71. Ensure that the Parks and Open Space Division is fully supported in its ongoing maintenance activities, as set forth by an appropriate management plan, by providing appropriate levels of funding.

Actions:

1. See Objectives 66 and 67.
Conservation Commission, Brookline GreenSpace Alliance (2012)

Objective 72. Support and strengthen links between open space goals and other environmental goals.

Actions:

1. Continue to coordinate efforts with parks, schools, climate change, health, and open space advocates.
Conservation Commission, Brookline GreenSpace Alliance, Health Department, Climate Action Committee, Climate Change Action Brookline (2013)

Objective 73. Plan for proactive land acquisition and funding opportunities for acquisition, even in planning areas not traditionally geared to open space issues.

Actions:

1. See Objectives 1 through 4 and 61 through 65.
Deputy Town Administrator, Conservation Commission, Brookline GreenSpace Alliance (2015)

B. Complying with Stormwater Regulations

Objective 74. Ensure that all Town projects consider opportunities for adding vegetation, enhancing greenways, and improving open space.

Actions:

1. Work with appropriate Town departments to ensure all available opportunities for enhancing greenways are examined as part of a design review or RFP (Request for Proposals) process.
Conservation Commission, Building Department, Engineering Division (2013)
2. See Objective 68.
Conservation Commission, Building Department, Engineering Division (2013)

Objective 75. Reduce impervious cover over time.

Actions:

1. Make educational materials available to landowners, contractors, and other relevant people regarding alternative technologies to conventional impervious surfaces.

Conservation Commission, Building Department, Engineering Division (2012)

2. See Objective 73.

Conservation Commission, Building Department, Engineering Division (2013)

Objective 76. Consider potential alternatives to conventional infrastructure during Capital Improvements Program (CIP) planning process.

Actions:

1. Work with appropriate Town bodies to ensure that green infrastructure is considered during Capital Improvements Program planning process.

Conservation Commission, Building Department, Engineering Division (2014)

Objective 77. All future municipal projects should consider green infrastructure alternatives, including projects that are not part of the Capital Improvements Program.

Actions:

1. Work with appropriate Town bodies to ensure that green infrastructure is considered during planning processes for projects.

Conservation Commission, Building Department, Engineering Division (2014)

C. Public-Private Partnerships

Objective 78. Encourage public-private partnerships.

Actions:

1. Continue to explore and expand ways in which private groups can support open space objectives.

Board of Selectmen, Conservation Commission, Brookline GreenSpace Alliance (2013)

2. See Objectives 64 and 65.

Board of Selectmen, Conservation Commission, Brookline GreenSpace Alliance (2013)

3. See Objective 48.

Board of Selectmen, Conservation Commission, Brookline GreenSpace Alliance (2013)

Objective 79. Collaborate among local advocacy groups and Town agencies to protect the existing uses of open space.

Actions:

1. See Objective 71.

Board of Selectmen, Conservation Commission, Brookline GreenSpace Alliance (2012)

2. See Objectives 66 and 67.

Board of Selectmen, Conservation Commission, Brookline GreenSpace Alliance (2012)

D. Regional Planning

Objective 80. Consider potential impacts of climate change in management decisions, including decisions regarding vegetation for cooling or flood control, and habitat buffers to counter stresses and enable wildlife migration.

Actions:

1. Participate in regional efforts to address climate change in the context of open space.

Board of Selectmen, Conservation Commission, Brookline GreenSpace Alliance, Health Department, Climate Action Committee, Climate Change Action Brookline (2013)

2. See Objective 69.

Board of Selectmen, Conservation Commission, Brookline GreenSpace Alliance, Health Department, Climate Action Committee, Climate Change Action Brookline (2012)

Objective 81. Devise management strategies to address non-native invasive species.

Actions:

1. Monitor parks and open spaces for the presence of non-native invasive species.

Conservation Commission, Parks and Open Space Division (2012)

2. Collaborate with regional and government agencies that already have procedures in place for addressing non-native invasive species.

Conservation Commission, Parks and Open Space Division (2013)

3. Implement strategies to remove non-native invasive species, and appropriately restore affected areas.

Conservation Commission, Parks and Open Space Division (2014)

Objective 82. Communicate with staff and/or environmental advocates in neighboring communities to enable formation of strategies to strengthen connections between green spaces.

Actions:

1. Consider strategies for strengthening the connections between D. Blakely Hoar Sanctuary, and Leatherbee Woods and Hancock Woods.

Conservation Commission, Parks and Open Space Division (2013)

2. Consider strategies for strengthening the connections between Lost Pond Sanctuary, and Kennard Conservation Area and the Hammond Pond Parkway Reservation.

Conservation Commission, Parks and Open Space Division (2014)

3. Consider strategies for strengthening the connections between Riverway and Olmsted Parks, and the rest of the Emerald Necklace parks and open spaces.

Conservation Commission, Parks and Open Space Division (2012)

4. Continue to work with municipal and state entities to ensure proper stewardship and management of the Chestnut Hill Reservoir.

Conservation Commission, Parks & Open Space Division, MA Dept. of Conservation & Recreation (2015)

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LETTERS OF COMMENT



TOWN of BROOKLINE

Massachusetts

BOARD OF SELECTMEN

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NANCY A. DALY
JESSE MERMELL
RICHARD W. BENKA
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MELVIN A. KLECKNER
Town Administrator

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June 28, 2011

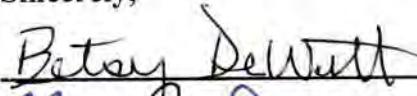
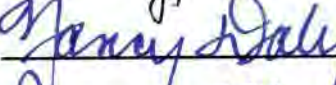
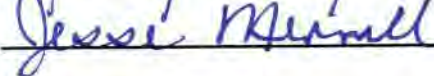
Kate Bowditch
99 High Street
Brookline, MA 02445

Dear Kate:

The Board of Selectmen is deeply appreciative of the work of the Conservation Commission, Open Space Committee and professional staff in providing the Town with a revised and updated Open Space Plan. "Open Space 2010" is laudable for its clarity, vibrancy and seriousness of purpose. Most important, it will be an effective guide for open space planning, policy and operations for the next five years.

The Board of Selectmen endorses the goals of the Plan as presented on June 28, 2011 (Attached). All of Town government and the entire community have much work ahead in addressing the specific objectives and recommendations presented in the Plan. We look forward to being part of that process.

Sincerely,


Board of Selectmen



TOWN of BROOKLINE
Massachusetts
Park and Recreation Commission

Park and Recreation Commission

John Bain, Chairperson
Nancy O'Connor, Vice Chairperson
Clara Batchelor
James Carroll
Daniel Lyons
Antonia Bellalta
Jean Stameris

Director of Parks and Open Space

Erin Chute Gallentine

Director of Recreation

Lisa Paradis

May 11, 2011

Kate Bowditch, Chair
Conservation Commission
Town Hall
Brookline, MA 02445

Dear Kate,

I am pleased to inform you that the Park and Recreation voted unanimously at their meeting on May 10, 2011 to accept and support the goals and objectives of the 2010 Open Space Plan. The Park and Recreation Commission enthusiastically supports the Conservation Commission and the Parks and Open Space Division in this significant effort to update the Town's Open Space Plan, including identifying new needs, goals and objectives, and creating an action plan to guide the Town's open space planning over the next five years. The Commission recognizes the importance to the Town of Brookline of addressing the new challenges and fulfilling the vision presented in this Open Space Plan.

The Park and Recreation Commission is proud of the Town's extensive system of parks, playgrounds and recreation facilities, conservation lands, and other open spaces, which provide significant benefits to the community. The Commission is grateful to have participated on the Open Space Plan Committee, and looks forward to continuing its role by working with the Conservation Commission and other Town bodies in implementing the 2010 Open Space Plan.

Sincerely,


John Bain, Chair
Park and Recreation Commission



Town of Brookline

Massachusetts

Brookline Preservation Commission

James Batchelor, Chair
David King, Vice-chair
Elton Elperin
Ashling Fingleton
Linda Leary
Judith Selwyn
Wendy Ecker
Paul Bell, Alternate
Kirstin Gamble Bridier, Alternate
Rosemary Battles Foy, Alternate
Cynthia Zaitzevsky, Alternate

May 13, 2011

Kate Bowditch, Chair
Conservation Commission
Town Hall
Brookline, MA 02445

Dear Kate:

The Brookline Preservation Commission is pleased to support the 2010 Open Space Plan for Brookline. The Plan acknowledges the special urban environment of Brookline as well as making note of the many National and State Register properties within the Town. It is a thoughtful document that takes into consideration the various types of landscapes and the different ways to maintain them.

The Open Space Plan will provide a blueprint for its citizens and officials in assessing the needs of the present and the future of Brookline's natural resources. The Preservation Commission looks forward to being a partner in protecting our valuable cultural landscapes in this new decade of the 21st century.

Sincerely,

Jim Batchelor
Chair



Town of Brookline

Massachusetts

PLANNING BOARD

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Brookline, MA 02445
(617) 730-2130 Fax (617) 730-2442
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Mark J. Zarrillo, Chairman
Linda K. Hamlin, Clerk
Steven A. Heikin
Jerome I. Kampler
Steven R. Kanes
Jonathan Simpson

June 3, 2011

Kate Bowditch, Chair
Conservation Commission
Town Hall
Brookline, MA 02445

Dear Kate:

The Brookline Planning Board applauds your Commission's efforts in producing the 2010 Open Space Plan. The numerous public hearings to solicit input from Board, Commissions, and the citizenry from all areas of Town have ensured that the goals and objectives accurately reflect the opinions of a broad spectrum of Brookline residents.

The Planning Board supports the goals and objectives of the 2010 Open Space Plan and looks forward to continuing to work with the Conservation Commission in fulfilling the goals outlined in this plan. The Planning Board believes, that if fiscally appropriate, it would be beneficial to the Town to restore a full-time Town Arborist, and additional staff to work with the Arborist, to preserve and protect the urban forest for the future generations of Brookline.

Sincerely,

Mark J. Zarrillo, Chair

